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MEDICAL PROGRESS DURING 1917

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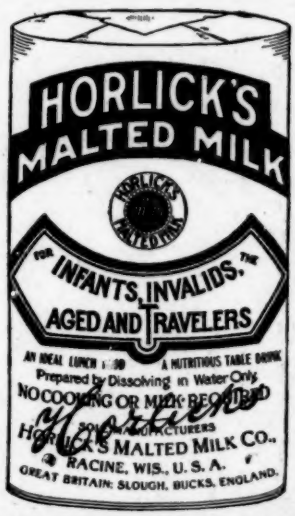
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Medical Progress During 1917

COMMENTS ON THE PROGRESS OF SURGERY DURING THE YEAR 1917.

WILLIAM FRANCIS CAMPBELL, F. A. C. S.,

PROFESSOR OF SURGERY—LONG ISLAND COLLEGE HOSPITAL,

Brooklyn.

War is a great leveler. It takes a highly developed social organization and levels it by the common denominator of public necessity. Peace fosters individualism—war socialism. The common good is paramount. The individual is submerged in the group. We now observe a practical demonstration of man at work, not for himself, but for his fellowmen. The effect of the great war is strikingly reflected in the medical literature of the past three years.

In 1915 the volume of medical contributions was not noticeably curtailed, but the quality of the product was not particularly distinguished. There were no epoch-making articles recorded.

In 1916 the volume was somewhat decreased, the quality was mediocre; there were few important articles.

During the last year German medical periodicals have not been available; British, French and American surgeons have abandoned the laboratory and the study for the field and the trench. Thus, we have at hand little to report that is new, and for the most part a resumé of the experience with procedures already well known to the profession.

The effects of war are not wholly destructive, nor entirely diabolical. We already perceive that out of the welter of blood and human sacrifice a new order of society is to emerge. No thinking being can be a part of these momentous times without experiencing at least some inward change, nor can our art, so intimately a part of this conflict, remain unaltered by the daily demands. When the bullet and the shell are spent, the doctor and the nurse exercise a restorative function which may be either short or long, but which constitutes a most important factor in the aftermath of war. The maxim of Nussbaum is ever recurring, that "the fate of a man with a bullet wound, is in the hands of the person who does the first dressing." The conservation of the man power of the world is today largely resting on the shoulders of the medical profession. Upon the doctor rests the responsibility of keeping the soldier in health, of restoring the wounded to functional activity, and of reconstructing the physically disabled, that there be given back to society a useful citizen.

The salvage of human waste is the task to which the medical profession is committed; and as never before is the need so urgent for an efficient service, nor has the doctor's function in the preservation of the state ever loomed so large.

How the doctor is measuring up to this mighty task is shown chiefly in two directions:

FIRST: In the *treatment of wounds.* Prior to the war the treatment of infected wounds had lapsed into a rut of routine that was by no means creditable—the study of wound infection was subordinated to more fascinating surgical problems. In the train of the war came the septic wounds resulting from shells, torpedoes and bombs, and the urgent need of suppressing wound infection for the protection of thousands of men from incapacity or death. The war gave the infected wound priority over all other surgical problems. The reason why we have not before placed the therapeutics of septic wounds upon a sound basis is because of the lack of precision in clinical research.

As a result of this study of wounds born out of the emergency of war, two methods of treating wounds have been developed.

I. The Hypertonic Saline Method, for which Sir Almroth Wright is sponsor. The method is essentially as follows:

After the wound has been cleansed, projectiles and foreign bodies removed, and efficient drainage secured, the wound is dressed with gauze soaked in a solution of five per cent. sodium chloride and one-half per cent. sodium citrate—over this is folded a thick pad, and finally a rubber protection dressing; one or two tablets of salt are planted in the dressing to keep the solution of proper strength.

Wright claims that the salt acts as a lymphagogue, but not in the presence of pus, but the addition of the citrate of sodium prevents clotting of blood in the presence of pus (Mattison, *Med. Rec.*, Dec. 1, 1917).

Wright also uses "antigangrene vaccine" containing the streptococcus, staphylococcus and the bacillus of Welch.

The injection of tetanus antitoxin is a routine procedure when the wound is dressed in the field ambulance.

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The principle here propounded is the stimulation of a rapid discharge from the wound—a flushing of the wound by its own serum favored by the hypertonic salt solution and "saltpack" which the dressing essentially is.

II. The Carrel-Dakin Method (Infected Wounds, A. Carrel and G. Dehelly). The profession is slowly beginning to appreciate that the Carrel-Dakin wound treatment is a "method"—that is, it contemplates the application of certain principles combined with an exact technique, no part of which can be altered at random. The method is essentially a chemiotherapy which sterilizes the wound whether it is newly infected or of long standing.

The problem among investigators has been one of choosing the efficient antiseptic. How to destroy the microbes without harming the tissues, and again the choice of a chemical which will not only destroy microbes suspended in water, but microbes in the midst of protein substances—blood, serum and pus. Dakin by adding boric acid to hypochlorite of soda has given us a solution which sterilizes the tissues without devitalizing them, and furthermore, a solution that is effective in the presence of blood, serum and pus.

It is not claimed that this solution is a new drug with marvellous properties by which a miracle may be wrought; it is simply the application of an old drug under such conditions of concentration and duration that its use becomes effective.

The Principles of the Technique.

First: A given antiseptic substance applied at a certain strength, during a certain time, and by a certain method, is able to destroy microbes without damaging normal tissues. This implies the application of Dakin's solution by means of an elaborate technique which has been worked out with detailed exactness. The height of the reservoir above the bed, the relation of the caliber of the irrigating tube to the distributing tube, the number and size of the perforations in the distributing tube, the prognosis as to the time when a wound of a certain area will cicatrize—all these have been worked out with mathematical accuracy and are a marvel of exact technique.

In a word, the Carrel technique fits the Dakin solution—one is a complement of the other, and neither can be altered without compromising the result.

Second: The progress of the wound is gauged not by clinical examination, but by microscopical examination of secretions. The bacteriological condition of the wound is represented on a chart which informs the surgeon day by day concerning the progress of the wound. The disappearance of microbes from the smears indicates a degree of asepsis compatible with closure of the wound.

While this method is by no means bacteriologically exact, it indicates to the surgeon whether the quantity of microbes in a wound under treatment are increasing or diminishing, and allows the progress of treatment to be followed step by step, and indicates that it should be modified if the number of microbes does not steadily lessen.

Comment: In the experience of the writer he has convincing proof that septic wounds can be rendered surgically aseptic by this treatment, and that infected wounds in which treatment is begun during the first thirty-six hours may be closed in from four to ten days, with the assurance of uninterrupted union.

The preparation of granulating surfaces for skin-grafting by this method, following strictly the indications of asepsis as shown by the bacteriological chart, gives results in which failures are practically nil.

SECOND: The doctor is performing an inestimable service to the state in the intensive study devoted to the salvage of human waste in the numerous reconstruction hospitals.

The soldier gives his life for the preservation of the state, and in so doing he is often ever after a charge upon the state.

The task of taking the physically disabled, deformed and dependent, and by the substitution of ingenious prosthetics for the deficient part, converting wards of the state into wage-earners, has developed to a high state of perfection. Medical literature has not as yet adequately exploited this branch of our art, but reports indicate that marvelous ingenuity has been displayed in the replacement of an absent part by an artificial one, and that the patient is being so trained and educated in the dexterous use of these artificial parts that out of this human by-product of the war, self-sustaining and productive members of the community are being developed.

Transfusion: The transfusion apparatus perfected by Dr. George I. Miller has received a well-merited recognition because of its simplicity and its efficiency, and is being used more generally as its worth becomes known. The value of transfusion is being more generally appreciated as it becomes more extensively applied. We find it employed not only in the acute anaemias, the secondary anaemias, and the pernicious anaemias, but there is probably an important field for its use in the septicemias and toxemias.

Hooker presents an important article on the *Treatment of Septicemia by Transfusion* (*Annals of Surgery*, 1917, LXVI, 513). The author has been at work on this subject since 1913, with special reference to staphylococcus sepsis. He has treated five cases by this resource, of which two were chronic. The outlook was very bad. The two chronic and one acute case recovered. The other acute cases showed striking improvement, but both patients suddenly succumbed to cerebral embolism. In four of the five cases the donors were immunized by the patients' staphylococci. The embolism was due to septic thrombi and chiefly to the seat of origin of the septic process (the face and communicating cavities).

Garnett (*Jour. of Obst., Aug.*, 1917) reports two cases of *Pernicious Vomiting of Pregnancy* cured by blood transfusion from a donor about ten days postpartum in whom all uterine contractions had ceased. The donor's blood is supposed to contain an antibody or antiferment that will neutralize the toxic agent in the recipient: This neutralizing substance having been produced in the donor during her pregnancy at which time the toxic substance has been neutralized by her. The first case was a colored girl of 19 years, who began to vomit six weeks after her last menstruation and continued for two months. In spite of all forms of treatment she grew steadily worse—pulse 150, slightly delirious, blood in vomitus, Hemoglobin 50 per cent. She was finally transfused with 250 c.c. from a ten-day postpartum case. Within 24 hours the patient improved, temperature, pulse and respiration became normal, nausea and vomiting ceased. When discharged from the hospital her Hemoglobin was 80 per cent. and she had gained 25 lbs. in weight. A second case, a woman 29 years of age, presenting similar symptoms, was transfused with 250 c.c. of blood from a ten-day postpartum case with partial success. Twelve days later a second

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transfusion of 200 c.c. from a seven-day postpartum case was given with complete success. All symptoms disappeared. In this connection it may be mentioned that Kaiser (*Archives of Pediatrics*, 1915, XXXII, 519) two years ago reported a case of erysipelas in a girl six years old in which attempts to check the disease by the usual methods—Antistreptococcus serum, leucocyte extract, etc.—entirely failed. The child's condition, continuing to grow worse, seven ounces of blood were withdrawn from a convalescent case of erysipelas and transferred to the child. Within 24 hours the temperature dropped to normal and remained so. With the drop in temperature there was a marked general improvement followed by complete recovery within a few days. In severe cases where the outlook looks dubious transfusion may save the patient's life.

Fractures: Blake presents a paper on *Infection of Simple Closed Fractures.* (*Boston M. and S. J.*, 1917, CLXXVI, 628.) He has never seen this condition described in literature. He has observed ten or twelve cases in twenty years. Cases have also been seen by his colleagues—Monks, Cotton, Lund and Mixter. The precise method of infection is unknown, but these fractures are sometimes accompanied by abrasions of the skin. The traumatism is usually severe, the skin dirty at time of accident. This suggests that thorough disinfection of the skin should have a prophylactic value. In cutting down on fractures to plate them, infection has been accidentally found. Thus silent cases of infection may explain cases of non-union.

Pilcher presents an illuminating article on *Fracture of the Lower Extremity or Base of the Radius* (*Annals of Surgery*, 1917, LXV, 1.) The author's long experience and special study of this important fracture enables him to speak with authority. He suggests that the term "Colles" be abandoned and that we adopt a nomenclature anatomically descriptive of the lesion. He explains that the fracture is produced by the powerful leverage which the extended hand and carpus obtain through the strong anterior ligament acting upon the lower end of the radius, that portion of the bone being literally torn from the shaft. The structure and shape of the bone combine to act as an inviting cause.

On account of the typical deformity being so conspicuous, cases with little displacement or none, are often unrecognized and allowed to heal without proper treatment. He is opposed, as a rule, to immobilization splints, because they are often abused; and unless there is some special indication for extra protection, he uses for dressing simply a strip of adhesive plaster.

An important article is contributed by Hawley on *New Methods of Precision in the Treatment of Fractures* (*J. A. M. A.*, 1917, LXVIII, 455). The author believes that in the future practically all fractures will be treated in hospitals. Mechanical methods will replace manual ones. Automatic machinery and instruments of precision are available and the public will demand them. Those who are compelled to pay the bills in occupation fractures will demand results. Those who treat fractures will be specialists.

He advocates immediate reduction and immobilization, and in addition, *x*-ray taken through the splints to verify the results of treatment. He believes that more exact methods are demanded and as much skill is required in treating fractures as in major operative work. The author has treated three thousand fractures in the past seven years, under the guidance of these principles.

Comment: The importance of this paper must appeal to every surgeon of large experience. Of all the departments of the hospital, the fracture service receives the least attention; and yet the results are of the greatest economic importance to the individual and the community.

The economic value of the hospital to the community could be much enhanced by improved methods in the treatment of fractures. When the Hawley fracture table replaces the Bucks Extension, we shall acquire an instrument of precision to replace a medieval apparatus which should be abolished from the wards of the modern hospital.

Cancer: Crile contributes an important paper on *Clinical Considerations of the Cancer Problem.* (*Internat. Jour. Surgery*, Jan., 1917.) He presents a material of 2,287 histories of cancer operations performed by himself, his assistants and hospital associates. He also had compiled for him a material of 4,500 cases of cancer of the head and neck, with special reference to metastasis, and finds that in less than one per cent. do true metastases occur. Protection is afforded by the cervical lymph-node barrier. In twenty-four two-stage operations for cancer of the rectum, but one patient died from the intervention. Of twenty-one operations for cancer of the gall-bladder not one resulted in a cure. In cancer of the breast still limited to the gland, 80 per cent. of the patients were well at the end of three years. In twenty-nine two-stage operations for cancer of the larynx, there were three deaths.

Levin presents an interesting report on *Skeletal metastases in Carcinoma of the Breast* (*Annals of Surgery*, 1917, LXV, 326). At the Montifiore Home, New York City, every case of breast cancer is radiographed for skeletal metastases. During the last three years ten cases of the latter have been revealed. The bearing of these findings is naturally two-fold—operability and prognosis. Again, the discovery of these metastases furnished an indication for *x*-ray treatment. One of the cases is of great interest because there was a distressing metastasis in the lumbar vertebrae after a radical operation. Despite the hopeless outlook, the metastasis is now under control by röntgentherapy. There is no local recurrence after two years.

Pfahler substantiates the findings of Levin in reporting the *"Cure of Bone Metastases in Malignant Disease with x-Rays"* (*Surg., Gyn., and Obst.*, 1917, XXIV, 14). He presents a series of five cases of metastatic cancer of the bones following cancer of the breast. In all the cases the vertebrae were involved, and in all such improvement was noted as to indicate an arrest if not a cure of the lesions. Two of these cases are apparently free from active disease.

In view of the hopelessness of these cases, the reported progress is remarkable and encouraging.

Sekiguchi makes an important contribution in a paper on *"Extramammary Paget's Disease"* (*Annals of Surgery*, 1917, LXV., 175). The author after having collected notes of over two hundred cases of Paget's Disease of the nipple continued his research into the extramammary manifestations of this disease. He found thirty cases in literature, to which he adds one personal case located on the scrotum. These thirty-one cases were located, respectively, on the penis, scrotum, external female genitals, axilla, umbilicus, buttocks, neck, lower lip, abdomen, forearm and back. The author sees in these locations evidence that the disease begins in the sudoriferous as well as the lactiferous ducts.

Another American case of *Primary Carcinoma of the Liver* in childhood has been added to the fifty cases already recorded.

Forman and Hattery (*Am. Jour. Obst. and Diseases of Children,* 1917, LXXVI., 862) report a patient attacked by the disease at the age of two, dying one year later. The process may have been rendered acute by an injury (fall) three weeks before death, during which period a loss of twenty pounds weight occurred, or this may have been only the natural evolution of the disease. In falling, the child struck directly over the tumor, and thereupon all the symptoms increased in severity and became continuous (pain, fever, distention, jaundice, etc.).

"Cancer of the Stomach" is presented by Peck in an interesting article (*Surg. Gyn. Obst.,* 1917, XXIV., 549). The Mayo Clinic publishes large numbers of cases with conclusions, such as dependence of seventy per cent. on preceding ulcer. The author has collected notes of 527 cases from large New York Clinics, covering the past five or six years, of which 408 were operative cases (chiefly inoperable). Over one-half the patients gave short histories of symptoms (about six months) and only in nineteen per cent. did the history suggest ulcer. Apparently only thirty-three cases of radical operation could be followed up with twenty-three "recoveries." Eight patients are known to be well, *i. e.,* free from recurrence—three to four years, the others all under three years. In some of the fifteen others life was prolonged from eight months to two and a half years.

Palliative gastroenterostomy showed a high operative mortality (28%). Patients with cancer of the stomach are poor risks aside from the extent of the cancer. Peck mentions one ten-year case (personal case) after partial gastrectomy.

Westbrook reports an interesting case of *Conjugal Cancer* (*Long Island Med. Jour.,* 1917, XI., 12). This unique case of cancer of the descending colon occurred in man and wife at about the same period (three years difference). The site of the lesion was the same in both patients. Both were successfully treated by resection. The wife has survived four years; husband one year. Both are doubtless cured, as in such cases the prognosis is better than in any other kind of carcinoma. The husband had the advantage of profiting by his wife's experience and was operated on early. Both growths were adenocarcinoma.

There is still some harmless debate going on regarding the relative value of cholecystectomy and cholecystostomy (*Medical Record,* Oct. 6, 1917).

To get, if possible, a crystallization of opinion on this matter, Guthrie sent out a questionnaire to forty-five experienced abdominal surgeons; and has taken up the subject under the title, *"Cholecystectomy a Better but a More Dangerous Operation than Cholecystostomy."* (*Interstate Medical Journal,* August, 1917.)

The questions submitted to the forty-five representative surgeons were as follows:

(1) What percentage of cases of cholecystostomy have had a recurrence of trouble following operation?

(2) Are you performing cholecystectomy more frequently than in the past?

(3) Have the results been better than when simple drainage was used?

(4) In what cases do you consider cholecystectomy the operation of choice?

(5) What are the contraindications to its employment?

(6) As a rule, how do you treat empyema of the gall-bladder?

(7) How does the mortality of cholecystectomy compare with that of cholecystostomy in your work?

The average percentage of recurrences after cholecystostomy reported by 29 men was 9.5 per cent. and varied in individual cases from 1 to 33 1-3 per cent. Thirty-six of the 45 surgeons reported that they were doing cholecystectomy more frequently than formerly. To the question whether the results were better with cholecystectomy than with simple drainage 36 answered "yes," 7 "no," and 2 did not answer. Answers to the question, "In what cases do you consider cholecystectomy the operation of choice?" are given at considerable length and can hardly be satisfactorily abstracted. However, Guthrie says: "The chief indications for removal given by the majority are any disease of the wall of the the gall-bladder itself or damage to the cystic duct. Eighty per cent. advise removal when any disease of the gall-bladder wall, with or without stones, is found." In the compilation of contraindications for cholecystectomy Guthrie finds the chief ones to be: Inexperience of the operator; inexperience of the anesthetist; desperate condition of the patient, which will not permit prolonged operation; extreme obesity, where good exposure cannot be obtained; perihepatic adhesions which make it impossible to draw the liver well down and rotate it outward through the wound; pancreatic disease and acute empyema. Thirty-three out of 44 men who replied to the sixth question favored treating acute empyema of the gall-bladder by drainage. Some of the others advise primary drainage, followed later by cholecystectomy; while six favor primary cholecystectomy. In answering the question as to the comparative mortality of cholecystectomy and cholecystostomy, two men stated that the difference was not known; four had a lower mortality for cholecystectomy than for cholecystostomy; 18 reported the mortality the same, and 21 had a higher mortality for cholecystectomy than for cholecystostomy, the difference ranging from 0.5 to 3 per cent.

Guthrie's summary and conclusions are as follows:

"Reports show that recurrences happen in 9.5 per cent. of cases that have had cholecystostomies performed. The recurrence of trouble following cholecystectomy is certainly small; the exact percentage is not known. Cholecystectomy is employed much more frequently than in the past and is a better operation, but it is attended with many more operative difficulties and dangers than simple drainage. The gall-bladder should be removed when its wall is diseased or the patency of the cystic duct is in question, provided the patient's condition will permit it. The contraindications for the operation are critical states of the patient, acute empyema, infection of the ducts, and pancreatitis, where drainage is desired. It is safer to treat acute empyema of the gall-bladder with simple drainage, and only proper to explain to the patient that a second operation may be necessary. Two safe operations are much better than one dangerous one, and in case of doubt simple drainage should be employed, especially by those inexperienced in gall-bladder surgery."

Comment: This states the case in a clear and judicial manner. We do not like to believe that surgeons are divided into warring camps over the treatment of the gall-bladder. It seems footless to attempt to force an issue upon the merits of procedures which can be settled only at the operating table, with the light of experience, and the guidance of sound judgment.

An article by Leo Buerger (*Amer. Jour. of the Medical Sciences,* Sept., 1917), *"The Pathological and Clinical Aspects of Thrombo-angiitis-obliterans,"* reopens a subject worthy of serious investigation. Buerger's article merely reiterates the well-known clinical features

of the disease, and emphasizes the chronological order of the lesions as follows:

(1) An acute inflammatory lesion with occlusive thrombosis, the formation of miliary giant-cell foci;

(2) The stage of organization or healing, with the disappearance of the miliary giant-cell foci, the organization and canalization of the clot, the disappearance of the inflammatory products;

(3) The development of fibrotic tissue in the adventitia that binds together the artery, vein and nerves.

Comment: The study of this fascinating disease has advanced no further than the single known fact that it is essentially a thrombosis. We deduce from clinical experience that it occurs around the age of forty, that the female is practically exempt, that the majority of these patients are Hebrew immigrants from Russia, Galicia, Poland and natives of Japan, and that many of these patients are inveterate smokers.

Willy Meyer suggests a change in the nomenclature of the disease, and calls it *"Thrombophilia,"* which merely emphasizes the tendency in certain individuals to thrombus formation. The fact that the female is practically exempt suggests that she may receive protection from some internal secretion peculiar to her sex. Thus *corpus luteum* has been administered to these patients, and some observers report beneficial results.

It is a strange commentary on the logic of therapeutics that Ringer's Solution, hypodermically and intravenously, should have become a routine procedure in the treatment of this affection. A solution containing calcium chloride, the well-known property of which is to increase the viscosity of the blood, is persistently given to prevent viscosity. It is quite evident that Ringer's solution is not indicated in Thrombo-angiitis obliterans.

When we consider that this disease is by no means rare—that in our own clinic we average from six to eight patients constantly under treatment, and other clinics in like proportion; when we consider the long period of suffering, the terribly disabling results of the disease—ranging from the loss of a foot to the loss of both extremities above the knees, the fact that no therapeusis short of amputation has been found effective; there is a powerful appeal to professional enterprise to lift the veil that shrouds this disease in mystery. We venture to suggest that the solution will be found in a dyscrasia of the blood chemistry induced by a hypo or hyper endocrinal secretion.

Summary: To summarize the progress of surgery for the year 1917, it is fair to say that the most valuable achievement is the very substantial advance in the treatment of infected wounds—notably by the Carrel-Dakin method; the marvelous ingenuity displayed in reconstruction hospitals where the disabled and dependent are being transformed into self-sustaining and productive members of the community; and the recognition of a demand for more exact methods in the treatment of fractures.

394 Clinton Avenue.

Transverse Colostomy.

Mummery gives these indications for colostomy:

1. As a preliminary to excision of the rectum for cancer.
2. To prolong life and prevent obstruction in cases of inoperable cancer of the lower bowel.
3. In all cases of pericolitis of the lower part of the pelvic colon where resection or short-circuiting is impossible.
4. In some cases of intractable ulceration of the rectum.
5. In cases of intractable fibrous stricture of the rectum.
6. As a temporary measure in severe wounds of the rectum.

—(*The Practitioner*, Aug., 1917.)

A REVIEW OF THE PROGRESS IN GYNECOLOGY AND OBSTETRICS DURING 1917.

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In reviewing the progress of obstetrics and gynecology during the past year, one can find little that is actually new. The continuation of the war which has occupied the minds and attention of all medical men in Europe, has caused a definite diminution in scientific investigation. There has, however, been a most gratifying increase in the American contributions to our specialty. While most of these papers have dealt with improvements in operative technique, or the report of clinical cases, we have attempted to filter out some of these advanced suggestions which may be of value to the general practitioner.

Uterine cancer again occupies the limelight. The statistical work of Hoffman in his analysis of the mortality from cancer throughout the world, is well worth reading by all who have the time. In illustration of the great increase in cancer, we will take the State of Massachusetts. In 1871 the recorded cancer death rate was 36.9 per hundred thousand of population. In 1881 the rate had increased to 52.3; in 1891 to 60.9; by 1901 to 73.1, and by 1911 to 92.6. Boston has for many years been one of the medical centers, not only of the United States, but of the world. Consequently, there are no reasons for believing that medical diagnosis was so crude or imperfectly developed in 1871 that one out of every two deaths from cancer should have been erroneously diagnosticated or wrongfully classified under some other disease. Nor is there any evidence to substantiate the point of view that the age distribution in Massachusetts has undergone such profound changes as to account for the higher frequency of cancer at the present time. In 1880 the proportion of population in Massachusetts, 65 years of age and over, was 5.4; in 1900 it was 5.1 per cent., and in 1910 it was 5.2 per cent. Consequently, these changes in age distribution can have only a slight effect on the cancer death rate.

When we *realize that the mortality rate for cancer in the female is* 136 *per cent. greater than in the male,* it must appear to all of us that this alarming increase in the mortality applies to the women with uterine and breast cancer, and that there is much to do in the early diagnosis, in order that successful treatment may be properly established. What can be done in this country by early diagnosis, and the prompt institution of radical surgery, is in the report of the work of Dr. Reuben Peterson of Ann Arbor, who has in the University Clinic, by his cancer propaganda and efficient surgery, been able to report a series of 51 cases of uterine cancer with 62 per cent. of cures after the five-year period. When we compare this to the results that we are obtaining in New York, we cannot but feel ashamed of the carelessness with which irregular bleeding in women must be regarded, for at Bellevue Hospital out of 51 cases of uterine cancer admitted to the gynecological wards in one year, only five were operable in the sense that anything radical could be done.

In our own service at the Long Island College Hos-

pital, during the past two years there have been only two cases suited for the radical operation, all of the other cases having extension into the parametrium and surrounding glandular structures to such a degree that nothing radical could be attempted.

In all the literature which bears on the etiology, continued irritation is the favorite and accepted theory. The defensive reaction to any irritation that falls short of the destruction of the cells, is an active karyokinesis. The more active this becomes the more nearly the cells approach the embryonal type. The more the normal processes of healing are interfered with, as for example by continued irritation, the more irregular is the mitosis of the cells. Hence, it may be readily inferred that from this continued irritation, these young cells, with their new-born karyokinetic energy, grow and disseminate in a lawless manner. All authorities admit that there is a precancerous or transitional stage. This is well shown in the chronic glandular cervicitis so frequently found in cervical injuries. The continued irritation produced by this glandular inflammation and the exposure of the cervix to repeated infection, favors lawless proliferation of the cells in this locality.

The enthusiasm with which the surgical profession hailed the Percy "cold iron" desiccation of inoperable malignant growths, a method which became popular because of the author's repeated presentation of the technique before almost every medical gathering in the United States, has received two very just checks during the past year. First, the persistent evasion of Percy to give his follow-up results, which to speak only in generalities, has cooled the enthusiasm of thinking gynecologists. Second, the report of Leonard's case, with the autopsy findings, after the application of Percy's "cold iron" by methods admittedly correct, has explained many of the deaths which have followed in the trail of his international heralding. We cannot do better than to quote Leonard's report:

"In this case a woman of 52 with a hemaglobin of 56 presented on pelvic examination, a cervix entirely destroyed by a rough, firm growth, extending far into each broad ligament, fixing the uterus firmly in the pelvis. In the treatment of this case, Percy's most recent technique was carried out in every detail. On the second, third and fourth days after operation, there was acute gastric dilitation. On the third day there was a urinary fistula. On the fourth day a paralytic ileus, and during the preparation for enterostomy the patient suddenly died. At autopsy the stomach was found distended with gas, its mucosa was perforated by 24 clean round ulcers which measured from one to seven millimeters in diameter. Microscopically the loss of substance extended to the submucosa and was unassociated with any cellular change. The operative site was extensively softened and much tissue had sloughed away. Grossly and microscopically intact squamous-cell-carcinoma was found peripheral to the large areas of general necrosis."

This case report presents two interesting facts; first, that superficial burns, whether of the genital tract or of the skin surface, have the same effect on the stomach mucosa; and, second, that this "cold cooking" does not penetrate to the cancer cells beyond the tissues actually cooked. Percy's claim that low heat has the advantage over high, in that it penetrates to a greater depth, is unfounded and disproven by actual facts. Contrast this with the report of John G. Clark, who sums up from his experience in 58 cases of inoperable cancer, treated by large doses of radium, by saying:

"I am convinced from our experience at the University Hospital, that radium offers the most helpful outlook of any remedy thus far presented in the palliative and occasionally the curative treatment of borderline and inoperable cases. In all cases the pain has been relieved, the bleeding checked, and at least a temporary well-being created in the patient."

Perhaps the most notable advance has been made in the radium treatment of non-malignant conditions of the uterus attended with hemorrhage. Keen reports a series of 47 cases treated for uterine hemorrhage of myomatous or myopathic origin, 24 of myoma, and 23 myopathic. These were checked up with a diagnostic curettage, to exclude carcinoma of the fundus, before instituting radium treatment. The radium properly screened by platinum or rubber, was inserted in the fundus and irridation continued for from 8 to 30 hours. The average was 24 hours, the amount used 50 mgrs. The intrauterine use of radium not infrequently causes nausea and vomiting, and some slight elevation of temperature. *In every case the bleeding was checked.* Short application, as 8-hour exposures, with 25-50 milligrams, will diminish excessive blood loss without actually checking the menstruation. Total amenorrhea may always be produced by proper irradiation. Radium checked an excessive leucorrhea in ten of Keen's cases. A sense of burning in the hypogastrium, and slight colicky pains immediately after the application, were the only unpleasant results complained of. Only one bad result occurred, and that was in a case of chronic pelvic inflammatory diasese. Here there was evidently a lighting up of the old process, since two days after the application of radium, the patient developed symptoms of acute pelvic peritonitis. In all uncomplicated interstitial or submucous myomata, where hemorrhage is the only symptom, or in myopathic hemorrhage, where no tumor formation is appreciable, radium will give permanent relief in 100 per cent. of the cases. Sufficient dosage will produce complete and permanent amenorrhea. It is possible to prescribe the exact dose of radium energy which it is desired to administer over any prescribed area.

The *x*-ray enables the gynecologist to exert graded effects upon the ovary and thus control the menstrual cycle in degrees varying from slight inhibition to permanent destruction of function. With the Coolidge tube we can today give Roentgen therapy with an exactness that was unthought of a few years ago. Patients with heart lesions, nephritis, tuberculosis or diabetes, should have the preference given to *x*-ray. The tumor should be intramural and be uncomplicated by parauterine inflammation. Frank has estimated the cost at $3 to $4 for six minutes' exposure, i. e., $100 to $150 for the course.

The constitutional symptoms of acidosis which follow deep ray therapy caused by the disintegration of acid protein cells of the tissues as a result of exposure to the rays, is met by the copious ingestion of alkaline waters and bicarbonate of soda. Notwithstanding the very good results obtained by the use of radium and the *x*-ray, operation still remains the procedure of choice in these conditions. The reason is clear. Fibroids are subject to varied degenerative changes and are commonly associated with adnexal and parametrial inflammations, and consequently, since our diagnostic acumen is not as perfect as it might be, we very often fail to make a correct diagnosis, the result being that a bleeding uterus, the seat of a degenerating fibroid or a beginning malignant growth of the fundus, is radiumized or *x*-rayed, when complete extirpation should have been performed.

Deaver reports 750 hysterectomies and myomectomies with 13 deaths, a mortality of 1.73 per cent. In the last one hundred cases there was no mortality. One hundred and eleven fibroids showed hyaline degeneration. In 26 there was hemorrhagic, necrotic and calcarious changes, carcinoma in eight, ovarian cyst com-

plicated 48, seven of which were intraligamentous, and eight were dermoids. Such analysis shows that both *x*-ray and operation have their indications as well as their limitations.

This year there have been rather more than the usual number of new operations or modifications of old ones, suggested for the cure of retroversion. In going over these voluminous contributions, one must be be impressed with the *ego* existant among surgeons. Each one's operation is the best and has the widest application. Experience has taught us that there is *no one* operation applicable to all cases. The symptoms of *retroversion are usually nil,* complicating lesions and not the retroversion produce the symptoms complained of, and these complications determine, to a great extent, the method of treatment to be employed for the correction of the displacement. According to Jacoby, backache and bearing down pain is never associated with retroversion per se, but due to the associated lesions. Stumdorf calls attention to the importance in making a differential diagnosis between congenital and acquired retroversions. He claims that in the normal spinal contour the axes of the abdominal and pelvic cavities are almost at right angles, while in the "gorilla" type of stature there is a flattening of the sacro-vertebral angle, resulting in an approximation of these axes toward the vertical so that the thrust of the intra-abdominal pressure is expended in a more direct line on the pelvic viscera. This flattening at the sacro-vertebral angle is evidenced by a corresponding obliteration of the lumbar curve. The backache in these congenital uncomplicated cases is from the unstaple skeletal poise.

Although we have claimed for years that everything necessary for diagnosis could be attained by vaginal anterior hysterotomy, we have come to agree with Deaver that trans-peritoneal abdominal hysterotomy has a diagnostic and surgical value in certain cases. We have saved the uterus in many cases this past year by hysterotomy, and the enucleation of a sub-mucous lyoma in one or the other cornue. We have often been able to directly inspect the cavity and locate primary areas of carcinoma and do a complete operation where the vaginal routine would have been indefinite. Weakening of the hysterotomy wound in subsequent labors depends on the asepsis and mode of suture. Strangulation of tissue by too tight sutures favors necrosis and weakening of the wound. Mayo called attention to the fact that morbidity in myomectomy is dependent upon the tension of the sutures. So is the integrity of a muscle wound.

There are cases in which sterilization of the woman is necessary for her future well-being. Salpingectomy or excision of the interstitial portion of the tubes means either abdominal or vaginal celiotomy. To obviate this, Dickinson of Brooklyn has worked out a very clever procedure by which he produces, with the electric cautery placed in the uterine ostium of the tube, a cicatricial constriction of the interstitial portion of the tube. This is not without danger, as perforation may occur even in the gentlest of hands.

Ectopic gestation has been regarded by Sampson as a malignant condition, in that it frequently occurs in both tubes and jeopardizes life. He advocates hysterectomy. Our experience shows that ectopics occur in three classes of women, first, those with congenitally small tubes; second, those in whom the tubes have been the seat of previous pelvic inflammation, and, third, women who have borne children in rapid succession and have an arrested ovum in the course of one of their pregnancies. In the last class, in ampullar pregnancies operated before rupture or after primary rupture, salpingectomy even is not necessary. Hence we are not in accord with his suggested radicalism. Babcock suggests controlling the hemorrhage in ectopic by a simple and prompt means—the vaginal application of clamps through a cul-de-sac incision. The clamp includes the tube and ovarian ligament and is placed close to the uterus, when the tube and ovary distal to the clamp may be cut away, or if the patient is *in extremis,* only the clamp need be put on. This does not appeal to us to be of value except in emergency, because of its technical difficulties.

Sampson's work on the circulation of the ovary and utero-ovarian anastomosis, illustrates the surgical truth of the contentions of Clark and Polak in their technique in salpingectomy, i. e., first when it is necessary to remove a tube and leave the ovary, the tube should be taken off close to the top of the broad ligament by ligation of the individual vessels, and, second, that when the ovary is left after hysterectomy, the tube should also be retained. Otherwise, the ovary is left with its circulation impaired.

A definite relation has been established by Rosenow and Davis, between tonsilitis and ovaritis, owing to the fact that certain low-grade hematogenous infections by streptococci have an elective affinity for the ovary. In support of these views they cite the following clinical observations: (1) the occurrence of fibro-cystic degeneration of the ovaries in which the usual streptococcus was isolated in pure form in a young woman with imperforate vagina; (2) the history of tonsilitis followed by symptoms of pelvic infection in a number of patients in this series; (3) the not infrequent occurrence of pelvic infection noted in gynecological practice following anginal attacks during the menstrual period; (4) the far more frequent occurrence of so-called idiopathic streptococcal peritonitis following anginal attacks in the female, than in the male; (5) the absence of colon bacilli in all but three ovaries in their series, a fact which would be contrary to expectation if local invasions occurred; and (6) the frequent occurrence of appendicitis, cholecystitis and arthritis in these patients, due usually to streptococci from a distant focus of infection. These deductions show the futility of resection of cystic ovaries. These resections should no longer be done as they only favor further destruction of ovarian tissue. On the other hand, the early eradication of the primary foci in the tonsils may prevent many fibro-cystic ovaries.

In the study as to the cause of bleeding in myomatous tumors, Geist has shown that when the mucosa is hypertrophic and pathological bleeding is present, the ovary is grossly abnormal, presenting either cysts, inflammation, or, most commonly, a large corpus luteum, often cystic in character. Geist concludes, therefore, that because of the resemblance between the histological pictures of the hypertrophy associated with the bleeding and that normally present in the premenstrual phase, which latter condition has been shown to depend upon some ovarian function (probably the corpus luteum), we are satisfied in believing that the change seen in the bleeding fibroid case is an expression of disturbed ovarian function and that the bleeding and hypertrophic mucosa have a common or related etiological factor. In support of this theory can be advanced the evidence of the *x*-ray therapy, since it is an established fact that the *x*-ray treatment of bleeding fibroids quickly stops the hemorrhage long before the size of the tumor is influenced. We also know that it

is the ovary and more particularly the more mature follicles that are first affected by the *x*-ray. Therefore, we must conclude that it is not the tumor but the ovary which is the causative factor in bleeding. This shows the futility of curettage in myomatous or myopathic bleeding uteri.

Miller of New Orleans in a very exhaustive study upon the ligation or excision of the pelvic veins for puerperal pyemia, points out that the mortality rate by the conservative treatment of these thrombo-phlebitic veins is between 60 and 70 per cent., while by the judicious excision or ligation, the mortality rate has been reduced from 51.6 per cent. gross mortality to 33.9 per cent. corrected mortality, the latter meaning the rate after eliminating the cases that were hopeless at the time of operation. These statistics are compiled from 197 cases collected from the literature and represent all the cases reported since 1894. The indications and the proper time to operate are phases of the subject open to discussion. How can it be proven that a given case of septic thrombo-phlebitis of any one or all of the pelvic veins would not have recovered without operation? As given by most authorities, the indication for operation is a correct diagnosis, which we must admit is difficult to make. The chief symptoms are (1) recurrent chills; (2) high temperature with pronounced remissions; (3) palpable thrombosed vessels high up in the outer portion of the broad ligament; (4) a uterus which is empty and correspondingly involuted; and (5) the absence of exudates and peritonitis. Of these 197 cases, the time of operation was given in 103 cases as follows:

Operation	Cases.	Percent of recoveries.
During 1st week	13	68
During 2d week	27	44
During 3d week	20	50
During 4th week	20	40
During 5th week	11	72
During 6th week	7	42
During 7th week	5	40

These statistics confirm the contention of Venus, Williams and Bardeleben that early operation gives the highest percentage of recoveries. As to the method of operation, all admit that the transperitoneal operation is the method of choice. The extraperitoneal or vaginal routes should never be considered. When should we ligate and when should we excise? Miller states that "in pure septic thrombosis, ligation of the involved vein is considered sufficient. Excision should be reserved for peri-phlebitic processes, or when the thrombosed vein presents areas of softening which appear likely to lead to perforation." Furthermore, "whether ligation or excision is to be attempted, depends also upon the vein involved. Excision of an ovarian vein would be very little more difficult than ligation, but the deep pelvic veins would present almost insurmountable difficulties." Veit has suggested that the number of vessels ligated depends upon the duration of the disease. If the operation is performed early, more vessels should be ligated. On the other hand, as Miller states, we must not try to dig out the very deep seated venous plexuses because nothing is to be gained and the danger of severe hemorrhage is great. Ligation of the hypogastric vein has not been as satisfactory as was anticipated and Bumm has substituted ligation of the common iliac. The mortality is no greater and the procedure is technically simpler. The causes of failure may be tabulated as follows: (1) primary diagnosis incorrect; (2) accompanying unrecognized peritonitis or broad ligament abscess; (3) extension of the thrombotic process to vena cava before operation; (4) presence of multiple metastatic abscesses; and (5) faulty operative technique.

Reuben Peterson has reviewed the literature and abstracted all the case reports, including two of his own, of an old but very useful operation, viz.: the substitution of the anal sphincter for the vesical sphincter in inoperable vesico vaginal fistulae. In the true sense of the word, no vesico vaginal fistula should be considered inoperable provided the vesical sphincter and adjacent portion of the urethra are intact. There are certain cases, however, where the vesical sphincter with more or less of the urethra has been lacerated beyond repair, and consequently the accompanying fistula cannot be successfully closed by the usual surgical methods. It is in these cases that the anal sphincter is made use of in securing control of the urine. Quoting Peterson:

> "The urinary stream can be directed into the lower bowel by the use of any of the following methods: (1) by implanting the uterus into the lower sigmoid or upper rectum by either the extra or intra-peritoneal route; (2) the ureters with a portion of the trigonum may be implanted in the bowel; (3) an opening may be made in the vesico-vaginal septum and the introitus closed, so as to divert the urinary stream from the bladder into the vagina, thence into the rectum, where the latter will act as a reservoir for the urine by means of the rectal sphincter."

This latter procedure has been done 41 times by 26 operators since it was first utilized by Maisonneuve in 1851. The functional results are most gratifying. Strange as it may seem, there was not a single case in 41 reported that complained of rectal irritation from the urine. Diarrhoea was not produced. The stools were frequently liquid, due to the solvent action of the urine upon the feces. Constipation was actually present in 5 cases. The urine could be retained in every case and passed at will. The menstrual function was carried on successfully in 12 cases, the flow escaping through the anus, as did the urine and feces. In the other cases, the women either were past the menopause, or ceased menstruating immediately after th operation. Ascending renal infection, which must always be considered in operations upon the bladder and ureters was remarkably infrequent and may be explained by the fact that the ureteral orifices were not interfered with and consequently very few infective organisms, chiefly B. coli, did not find their way up the ureters to the kidneys.

This procedure appears to us to be worthy of trial in the class of cases for which it was devised. However, at best it can only be done as a sort of compromise on the part of the operator, for while the patient is relieved of the distress caused by the constant dribbling of urine, she has been deprived of her vagina, which may cause her considerable unhappiness.

In the endocrine system there have been no advances made. Pluriglandular therapy has, to a very large extent, supplanted the administration of the extract of a single gland whose secretion is defective, because of the fact that in many cases we cannot make an exact diagnosis of the particular gland or glands at fault.

Teachers of gynecology as well as of obstetrics have come to an appreciation of the position which should be occupied by that dangerous instrument, the curet, and while we can hardly hope for the acquiescence of the general practitioner or the general surgeon in our views, advanced obstetrical and gynecological thinkers limit its use, first, for diagnostic purposes, and second, for the control of hemorrhage where there is a history of the pregnant state, and ectopic can be ex-

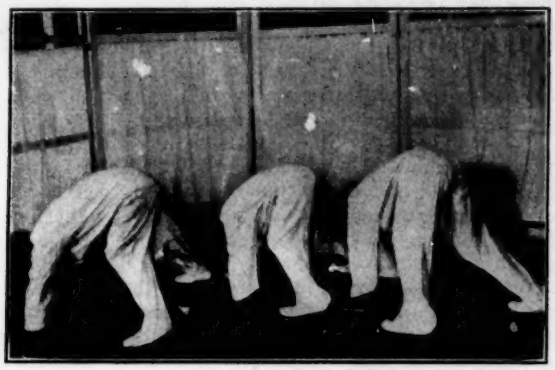
cluded, and where we may expect to find shreds of decidua, fetal remains or hypertrophied endometrium. Under no other circumstances should it be used. We have learned that all of the myopathic hemorrhages from the uterus are due to ovarian changes, particularly those of the corpus luteum, and may be controlled by internal remedies and the *x*-ray. The curet, besides being the greatest carrier of sepsis and breaker down of Nature's protection against localized infection, is absolutely dangerous in fibroids where the perforation of the capsule permits infection to extend into the deeper tissues of the tumor. In corioepithelioma where, because of the extreme friability of the growth and the well known erosive action of the syncitial masses in the muscle structure, perforation is an extremely easy accident. The same may be said of hydatid which is the most frequent forerunner of corioepithelioma. We all admit that perforation of the uterus is liable to occur in the most skilled hands, even when every precaution is taken to prevent it. Why tempt Fate by increasing the frequency of curetting when it is only justifiable or demanded under the conditions cited above? When perforation does occur, certain factors influence the prognosis. Perforations into the parametrium give a low mortality, but a high morbidity. Those into the peritoneum, if of sufficient size, are attended with high mortality, due to the consequent hemorrhage, trauma and sepsis. If perforation does occur, the surgeon is often at a loss what course to take in the best interest of his patient, as he has no direct way of determining the amount of bleeding that is actually going on. Shall we, when perforation is suspected, subject every woman to an abdominal section as a routine? This is hardly necessary when by a cul-de-sac incision we can accurately determine whether or not the bleeding is considerable. If it is inconsiderable our experience has shown us that the isolation of the uterus with gauze, through a posterior incision, is the safest way to handle these accidents. Punctures with the sound do not usually give cause for alarm and should therefore be managed expectantly.

Very little new has been contributed during the year in the progress of obstetrics, but much which is old will bear repeating. In the toxemias of pregnancy in the early months, two very satisfactory suggestions have been made, which have considerable clinical value. First, in the hyperemesis of pregnancy, many of the milder cases may be absolutely controlled by J. C. Hirst's suggestion, viz.: the hypodermic administration of corpus luteum extract. How this really acts we would hardly venture to say, but that clinically, many of these women stop vomiting with a promptness which before was unknown, there can be no question. In the severe cases where there is really an evidence of hepatic toxmia, as shown by the diminution in the urea nitrogen and a rise in the ammonia nitrogen, with increased pulse rate and persistent vomiting, which clinically go on from bad to worse, until actual degenerative changes have taken place in the liver lobule, direct transfusion of blood taken from the ten day puerpera, checks the process in many cases very promptly. The description and reports of these cases are almost theatrical, so wonderful and so prompt is the cessation of vomiting and the general improvement.

In the later toxemias again prevention stands out most prominently. In 4,200 confinements in the outpatient service of the Long Island College Hospital, where pre-natal work is done upon each applicant, and no woman is confined who does not report regularly to the pre-natal clinic, there has developed only one case of eclampsia. This does not mean that there have not been several hundred pre-eclamptic toxemias under observation, many of whom have had their pregnancies terminated before term, but it means in all of these women only one toxemic woman came to labor and had a convulsion. Compare this with the work in private practice, unless the man is giving conscientious prenatal care. In the management of eclampsia Cesarean section has not found the number of advocates which Peterson supposed would flock to the radical operative side. The majority of us feel that the toxemic patient is of low resistance and stands sepsis and trauma poorly. Consequently, we believe that delivery should be accomplished by the natural methods and not by surgical means. Harrar has introduced the morphin treatment for the convulsions, and this, together with evacuation of the uterus, aiding dilation by the introduction of the hydrostatic bag, hurrying delivery by the rupture of the membranes after full dilitation, has given as satisfactory results as any of the more radical methods. On the other hand, Williams is still an enthusiastic bleeder, while Fisher and his followers are using the intravenous injection of a 2 per cent. magnesium sulphate solution. When all the methods are analyzed, the irreducible minimum is prompt delivery without trauma, stimulation of elimination and control of the convulsions. And here again we have no definite way of knowing what case will recover, as the hepatic disturbance may be so great as to be irreparable. In the nephritic type, where albuminuria and high blood-pressure are the factors, bleeding does the most good.

At last there has been a trend on the part of the public to recognize the difference between good and bad obstetrics. What is this difference? The good obstetrician aims to leave his patient at the time of her discharge in as good condition as she was at the time she came to him. This can only be done by following the proper pre-natal care, giving her an aseptic delivery and minimizing the injury of the delivery. In normal primiparous labors this may be accomplished in two ways, first by preservation of the membranes until complete dilitation of the cervix is accomplished, and secondly, by conservation of the pelvic floor supports by a median perineotomy and immediate repair of this incision. Asepsis can be preserved in most labors by intelligently following the course of labor and the mechanism of the head through the pelvis, by following the location of the fetal heart in its rotation and descent toward the median line. The degree of dilitation of the cervix may be likewise followed by a rectal examination. If at any time there is any doubt about the correct diagnosis of position, a vaginal examination should be made. When we can confine women as they are intended to be confined, by the utilization of the natural forces in which the element of time plays the most important part, and rob them of any danger of sepsis by the avoidance of vaginal examinations through unclean passages, we can offer the public good obstetrics. The delivery, however, does not terminate the practitioner's responsibility, as over one-third of the women who have babies get up from bed with a backward displacement of the uterus. This is brought about by the too long maintenance of the patient in the dorsal position and by permitting the rectum to become loaded with consequent straining at stool. Change of posture throughout the bed period, varying from back to side and abdomen, the assumption of the knee-chest posture after the first few days, three to four times a day, and the use of daily enemata to relieve the loading of the lower bowel, all favor uterine drain-

age and better involution. After the patient rises from the bed, the suggestion of Beck, of Brooklyn, viz., that she assume the all-four posture, walking on her hands and feet, has prevented to a very great extent, the occurrence of retroversion. Beck has been able to show in a series of cases in which this exercise was employed, after the tenth day of the puriperium, a reduc-



BECKS—"Monkey Walk" to prevent puerperal retroversion.

tion in the retroversions following labor from 33 per cent. to 6 per cent. Even this does not complete the responsibility of the practitioner. After the uterus is reposited, and it is repositable in a large number of cases, the support of a pessary for a number of weeks thereafter is needed.

The Dakin-Carrel method of treating wounds has of course been introduced into obstetrics. Sherman's contribution on this subject offers little that is new. Years ago Carosa of Batavia and Edward J. Ill of Newark suggested continuous intrauterine irrigation with 50 per cent. alcohol. The solution was passed through a tube which was passed to the fundus of the uterus and held in place by a loose gauze packing inside of the uterus. Through this tube 50 per cent. alcohol in eight ounce quantities was passed every two to four hours, and the result, as might be expected, in the class of cases to which it was applicable, mainly the putrid endometritis class, were excellent. Doubtless the Dakin-Carrel method will give similar results in this class of patients. The difficulty in puerperal or post-abortal sepsis is to make the correct pathological diagnosis. The majority of these cases when seen by the obstetrician have passed out of the uterine class, therefore there is very little field for local surgery or local treatment, which, as we all know, misapplied is the most dangerous, not only to the life, but to the future health of the woman.

Treatment of Psoriasis by Injections of Pure Sulphur.

Louis Bory reported to the Société Médicale des Hôpitaux some results obtained by the use of sulphur internally for the treatment of psoriasis. For this purpose the solution of pure sulphur, suggested by Jacquet, was given by injection, but Bory added eucalyptol to the solution. The composition, therfore, was:

Pure precipitated sulphur	20 c.g.
Sterilized oil of sesame	80 cc.
Eucalyptol	20 cc.

The solution is injected deeply into the muscles of the buttock, in a dose of 4 or 5 cc. every three or four days. The injections are almost painless, and are borne perfectly well. In most of the cases, the skin gradually became normal in the course of a few weeks. Only a few cases have been treated in this way at present, but the results are most encouraging.—(*Journ. d Méd. et de Chir. prat.*, June 10, 1917.)

NOTES ON THE PROGRESS OF MEDICINE DURING THE YEAR 1917.

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The front along which medicine is now advancing is so extensive that in such a very brief survey as the present it is possible to notice only a few spots on the line.

Many departments of medicine have reacted to the stimulus of the war, and among them, scientific dietetics, which has been making slow but steady progress during recent years. This subject has also undergone a remarkable popularization in consequence of war conditions. The shortage of food which already exists in most countries and threatens in others has injected a practical interest into scientific dietetics, and the people are becoming accustomed if not reconciled to seeing physiological chemistry working hand in hand with economics.

The dietetic deficiencies of the white bean, which has long occupied an important place in the dietary of the army and navy, have been shown up by McCullom, Simmonds and Pitts (*Journal of Biological Chemistry*, XXIX, 521), who conclude from experiments on rats that this bean is not a good substitute for meat, milk or eggs as a source of protein, for the following reasons: It is difficult of digestion, and only a comparatively small portion of its protein is absorbed; it does not contain the essential amino acids in proportions ideally desirable for utilization by the body; and it is comparatively deficient in salts which the body requires. On the other hand, the advantage may be claimed for it of possessing a large amount of the water-soluble vitamines which are essential to nutrition; although, like the cereal grains, it shows a marked deficiency of the fat-soluble vitamines which are essential to growth.

Bateman, summarizing studies which have been made on the dietetic value of raw eggs, says (*American Journal of the Medical Sciences*, June, 1917): "A substance which fails to stimulate the flow of gastric juice and is antipeptic, which hurries from the stomach, calls forth no flow of bile, and strongly resists the action of trypsin, which is poorly utilized and may cause diarrhea, has evidently little to recommend it as a foodstuff of preference for sound persons, let alone for the invalid." *The Journal of the American Medical Association*, commenting editorially, says: "The reputed relation of excess of egg white to renal damage and the frequent occurrence of hypersensitization to its protein, offer additional reasons for debating the wisdom of a liberal use of raw eggs."

Lusk (*Elements of the Science of Nutrition*, 1917) proposes the grading of protein product according to their effectiveness in replacing body protein, the scale being determined by the extent to which the different protein products furnish the essential amino acids in the proportions needed by the body for its synthetic purposes. He proposes that such protein products as will replace body protein with very little nitrogenous waste, as animal flesh, milk and eggs, be put in Class A and that gelatin, which is comparatively valueless as a replacer of body protein, be put in Class D; while wheat protein, which contains a mixture of proteins of classes A and D, but in which those of Class A predominate, could be put in Class B, and corn protein, which has still less of the proteins of Class A, could be put in Class C. By an extension of this plan it has been suggested that combinations of "incomplete" protein products of classes B and C which supplement each other might produce mixtures which could supply all

the amino acids in the proportions of an ideal diet; and Hart and Humphry have demonstrated on cattle the feasibility of this plan.

Hall and Pettger (*Journal of Bacteriology*, 1197, II, 47) report their studies of the factors involved in the change of types of intestinal bacteria. They found that the direct feeding of bacterial cultures had little influence on the intestinal flora, but that the chief factor in effecting changes in that flora seemed to be the character of the diet. They confirmed the experience of others in past years, that increase of carbohydrate and lessening of protein in the diet diminished intestinal putrefaction, and their experiments with lactose feeding led to the conclusion that this carbohydrate is essential to the bringing about of a permanent change in the intestinal flora, and particularly to the colonization of the intestines with the aciduric and lactic acid producing bacteria, notably the bacillus acidophilus and the bacillus bifidus. They conclude that lactic acid itself is not necessarily a factor, and that the benefit observed from the use of milk cultures is due to the lactose of the milk rather than to the bacteria taken with the milk; for it is the bacillus acidophilus whose relative increase in the intestines is brought about rather than the bacillus bulgaricus.

Haslyck, Scott and Reycroft found as a result of their investigations of the effects of salicylate in the body (*Archives of Internal Medicine*, September, 1917), that the administration of full therapeutic doses of salicylate is followed by a rather marked diminution in the output of urine, which reaches its greatest depression in from ten to twenty hours after the symptoms of toxicity appear; that the retention of fluid takes place in the tissues, as there is no demonstrable dilution of the blood; that the administration of sodium bicarbonate has no demonstrable effect on this edema; that the edema is accompanied by a diminution in the excretion of phenosulphonaphthalein and also by an accumulation of urea nitrogen in the blood and an increased excretion of albumin.

Thomas and Birdsall, after experimenting with various tests of kidney function, reach the following conclusions (*Journal American Medical Association*, November 24, 1917): 1. That none of the various tests tried, not excepting those for retention, proved superior to the indigocarmine test. 2. That indigocarmine is more trustworthy and practical than phenosulphonaphthalein. 3. That Ambard's coefficient is of questionable utility so far as differentiation of nephritis is concerned, and possesses no advantages over the two tests above referred to. 4. That cryoscopy of the whole blood is valueless. 5. That estimation of the creatinin of the blood and urine urea nitrogen either per hundred c.c. by the urease or by Doremus' sodium hypobromite method, demonstrate results so variable as to be unreliable. 6. That the indigocarmine test is the best functional test for the surgeon, because it is not only the most practical but is unsurpassed in reliability, whether employed for unilateral determination or for total estimation.

Kendall found (*Journal American Medical Association*, LXVII, 343) that phenosulphonaphthalein, when injected into the body in certain experimental conditions, was destroyed in the body and did not appear in the urine though the kidney was functioning normally.

Luttinger summarizes (*Journal American Medical Association*, May 17, 1917) the results obtained in the whooping cough clinics of the New York City Department of Health and the private practices of 180 physicians, from the use of pertussis vaccine, and concludes that these results are sufficiently favorable to warrant the adoption of the use of that vaccine as a routine procedure, provided the proper vaccines are employed and the method of the New York City Health Department is followed.

Lewis (Proceedings of the Royal Society, B., 1917, LXXXIX, 560) explains the fact that the two upper chambers of the heart are "frail and thin," while the two lower chambers are "sturdy and massive," on the ground that they are not intended for pumping the blood into the ventricles (which they do at the end of diastole to the extent of only a fraction of the full content of the latter), but for the purpose of serving as reservoirs to contain the blood which comes continually from the veins, and which is shut off from flowing into the ventricles during that third of the ventricular cycle while the ventricles are expelling their contents; thereby saving the veins from distention during that period.

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PROGRESS IN DISEASES OF THE NOSE, THROAT AND EAR DURING THE YEAR 1917.

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In January, 1916, we noted in these columns that extraordinary attention had been devoted during the year 1915 to the tonsils, and that there appeared to have developed "a positive movement toward conservatism on the subject of operations upon the tonsils. The pendulum had certainly swung too far in the opposite direction, etc." But we were too optimistic. Although numerous deplorable results of tonsillectomy were published—results that are not characteristic of tonsillotomy—and many competent observers inveighed against tonsillectomy, the latter operation is still forging ahead. About the worst that can be said about this operation with its train of condemnable results, is that these sequellae follow the operations of men who have the largest experience in such work, rather than those of novices or general practitioners. That being the case, what can be expected when tyros try their hand at it? This calls to mind an instance along the same line of experience. A physician from a distant state called upon the reviewer and announced: "Doctor, I have come to Chicago to see you perform some mastoid operations. I have operated on five cases, and they all have died; but I suppose a man has to lose a number of cases before he learns how to operate!" How much better is that than murder? Such men attempt anything with the utmost self-confidence, notwithstanding their egregious unpreparedness. The tonsils can be removed by tonsillotomy, and the mastoid operation can be performed, if done in time, with little or no danger of unfortunate results.

Some very valuable papers have appeared in the 1917 literature on the mastoid operations such as J. N. Roy's on ozena, in which many thousands of people were examined in different parts of the world by Roy of Montreal; and a very illuminating paper on hay fever by Scheppegrell, who is still chasing the pollen of evil repute, to which the following bears witness:

Hay Fever.

In the *Laryngoscope* for August, 1917, William Scheppegrell discusses hay fever, "hyperesthetic rhinitis," recognizing that "there are some cases in which pollens are not repsonsible" for the attacks. He seems to believe, however, that a large majority of cases are

due to the action of pollen of some form. It is time that we discarded the term, rhinitis, as applied to hay fever, for the most prominent distinguishing characteristic of hay fever is the absence of inflammation. He cites seizures of this disease in New Orleans in February, due to the pollen of the annual meadow grass, which does not bloom until June in higher altitudes, and attacks in December and January caused by the pollen of false wormwood, which blooms perennially in southern Louisiana. In the north we have patients who suffer in midwinter, when the ground is covered with a thick blanket of snow. In such cases pollen is not a factor, but acidosis is, and they are relieved and protected from attacks by proper diet and ant-acid treatment.

Scheppegrell says: "In Texas, the cause of a local outbreak of hay fever in Austin in the month of January was traced to the pollen of the mountain cedar. Exposed plates showed twenty-seven per square centimeter." While Scheppegrell admits that the dust from roads provokes attacks, he believes that they are due to the pollens that are mixed with the dust, and he presents a photo-micrograph of atmospheric pollen plate showing them. In this connection we call to mind that the following causes will excite attacks: the contact of a polished silver probe; dry, hot air; cold, damp or foggy air; smoke, gas, bright light from the sun, electric light, gas light, sunlight reflected from the snow, fumes from phosphorus and sulphur, powdered ipecac, etc. Like the late Professor Lockwood, former president of the United States Hay Fever Association, Scheppegrell has made and published numerous illustrations of the various pollens, which make a very interesting contribution to the literature of hay fever, and he puts forth the same theories advocated by Prof. Lockwood. There are eleven of these plates in this article. A fact worth noticing is that "the air of the ordinary house has an infestation of hay fever pollens varying but little from the air of outdoors." Another very significant fact was discovered, which illustrates why a very copious rainstorm affords relief from attacks: "The submersion of the pollens in a large amount of water removes their toxic properties," and then they can be introduced into the nostrils of hay fever subjects without any effect.

Ozena Among the Various Races.

J. N. Roy (*Laryngoscope*, Sept., 1917) made observations in many parts of the world on the nature of ozena and the various peoples who suffered from it. He examined the nasal cavities of nearly 5,000 Negroes on the Dark Continent, in 22 different colonies, and visited about 100 different tribes. He makes the broad statement that, "After making a most careful and minute examination of the aborigines of Africa, all over the country, they do not suffer from ozena. He examined also the races which are not full-blooded or pure among many Oriental tribes, and found no evidence of atrophic rhinitis. This disease is also unknown among the Negroes we examined in Oceania and in the West Indies, and we had to return to the American continent to find it." He met it, however, in Brazil and Central America in pure breeds as well as among mulattoes and the offspring of Negroes and redskins. "The disease appears to be less prevalent among the Negroes and mulattoes than among the white and yellow races." He concludes that the mucous membranes of Negroes and mulattoes "are very resistent to infection, and it requires a prolonged contact with very virulent microbes to cause a disease."

"The yellow race of Asia and its different ramifications, which spread practically all over the globe, are particularly predisposed to atrophic rhinitis. We found it not only in the Chinese and Japanese, but in certain Indo-Chinese of Mongol cross-breed, in the Esquimos, Laplanders, Finlanders, Malays, Philippinos, Hovas and the redskins."

Roy does not believe that climate is an etiological factor, although he remarks that "African Negroes often suffer from hypertrophic rhinitis if they live in a cold, damp climate, though they do not show any lesions in their own country." Deviation of the septum nasi is very prevalent in the yellow race, and especially in Indians, forty per cent. showing this malformation. It is more frequent in cross-breeds than in whites.

He regards the theory of Zaufal and others, that ozena is due to abnormally capacious nostrils as disproved by the Negroes who have wide nostrils and enormous nasal capacity, for they do not suffer from ozena in Africa. "We believe the cocco-bacillus of Perez is really the specific vehicle of the infection, since experiments conducted in the laboratories confirm and prove this theory. The cocco-bacillus, when injected into the circulation of an animal, is the only one which causes atrophic rhinitis with the characteristic odor of ozena. The other microbes found in the nasal cavities only act as secondary agents." He examined a multitude of Indians of 27 races in both Americas and found that those who lived in the most confined conditions, breathing impure and contaminated air, suffered the most—that is, about six per cent. of the population.

"That ozena is distinctly of neurotic origin is most conclusively proved by observers in Africa. Of all the blacks we examined in that vast continent, not one was infected, not even among the natives of mixed descent, whose ancestors may perhaps have suffered from the disease, which probably disappeared through the purifying agency of the sun's rays in a sand-covered, tropical region." Yet, when these same healthy Negroes were transplanted to North or South America, and brought into contact with those who were diseased, they became infected. Probably their new, confined, unhealthy and unclean surroundings were an important contributory factor.

Nasal Obstruction Due to Faulty Jaw Development.

Harold Hays (MEDICAL TIMES, July, 1917) emphasizes the fact that not only adenoid growths, hypertrophied tonsils and hypertrophied turbinals may cause mouth breathing, high arched palate, due to thumb-sucking, crowding of the second teeth and deflections of the septum nasi, all contribute to contracting and narrowing of the nasal chambers. It is thus necessary, in addition to removing the hypertrophies, to expand the upper dental arch. An orthodontist can accomplish this by bracing the teeth and separating the jaws with jack-screws. The results of this method are very gratifying.

Clinical Experience With the Use of Vaccines in Diseases of the Ear, Nose and Throat.

George Morrison Coates (*J. A. M. A.*, Jan. 20, 1917) sums up his experience in the following words: "The writer feels that if vaccines have not fulfilled all of their early promise, they have, at least, given us a very effective extra means of combating infection, especially if they are used in conjunction with skilful and intelligent surgery, and that little harm can or will result from their use, even by the novice, provided that the injections are given hypodermically, rather than intravenously, as in the latter, the reactions are

at times exceedingly severe and alarming. In a number of instances, notably ozena, it seems as if vaccine therapy alone solves a problem which has been puzzling clinicians hopelessly for years, and, until some more efficient substitute is discovered, vaccine therapy has its distinct place as a therapeutic measure in diseases of the nose, throat and ear." In the discussion of this paper, Daniel W. Layman said, "the vaccine is a material aid in the treatment of chronic suppurative diseases of the sinuses accessory to the nose along with the routine treatment and necessary nasal surgery," but the vaccine treatment failed to be of any benefit as a therapeutic agent without establishing thorough drainage and ventilation. John A. Pratt had found the vaccine treatment very effective. "It does not seem to make much difference whether it is autogenous or stock."

Tonsillectomy.

Watson Marshall (*Laryngoscope*, Dec., 1916) classifies tonsillectomy as a major surgical operation. He deplores the seeming haste with which many surgeons dispose of their tonsil cases. However, he has noted that recently surgeons are showing more appreciation of the importance of the tonsils and of thoroughness of their treatment. While European operators generally make no use of anesthetics in operating on the tonsils, Americans are coming more and more to administer them. In fact, he states that "American laryngologists are now practically unanimous in declaring for some form of anesthesia." He argues against local anesthesia, citing the fact that one can not know how much cocaine is absorbed, or whether a subsequent severe hemorrhage may not develop. Incidentally we may mention a case in the reviewer's knowledge, which illustrates the danger: An acquaintance applied cocaine to a patient's throat, reached for his instruments, and, before he could begin the operation, the patient collapsed and died.

Marshall condemns chloroform for tonsillar operations. His preference is for ether, preceded by nitrous oxide. Some operators employ nitrous oxide exclusively. Good illumination of the field of operation is emphasized, and the finger dissection is condemned. He insists on complete enucleation of the gland. He accomplishes this, preferably, by blunt, rather than sharp, instruments, but does not avoid the knife entirely. He recommends, also, the snare. For after bleeding, he applies gauze to clear the field, and applies a hemostat. He makes use of no astringents, styptics or other drugs.

It is somewhat surprising to see with what nonchalance an operation formerly classed as a simple, minor operation has graduated into a major surgical operation, requiring a sojourn at a hospital.

Two Hundred Consecutive Tonsillectomies Under Local Anesthesia.

Oscar Wilkinson (*Laryngoscope*, Sept., 1917) gives the details of his operations in which he preferred local anesthesia. "I use first locally a six per cent. solution of cocain painted over each tonsil and into the crypts and then over the soft palate and pharynx. I use as an injection a one per cent. solution of alypin or novocain or 1/10 per cent. cocain solution, to which from five to eight drops of adrenalin have been added. Alypin and novocain are preferable to cocain." He uses injections into the various parts of the tonsil until the bleaching of the tonsil shows it to be anesthetized. The following are his conclusions:

First. The operation can be done without pain.

Second. Do not ever operate on a case which has had a recent acute tonsillitis.

Third. There is less shock, less hemorrhage and less fever under local anesthesia.

Fourth. The work can be more satisfactorily done and hemorrhage can be more easily controlled under local anesthesia.

Fifth. Many cases can be operated on who could not, on account of other conditions, take a general anesthetic.

Sixth. Local anesthesia is the anesthetic of choice in all grown subjects with very few exceptions.

Lung Abscess as a Sequel to Tonsillectomy.

Ira Frank (*Laryngoscope*, June, 1917) cites two instances of lung abscess following this operation. He refers to "the terrifying sequellae to the most popular of modern surgical operations." However, this is hardly a modern operation, as Aetius discoursed against complete removal of the tonsils in the early part of the sixth century, as is shown elsewhere in this review. He cites the deplorable experiences of other observers after removing the whole tonsil. "Bassim, in France, reported 19 cases of broncho-pulmonary complications, of which three were lung abscesses. In the Massachusetts General Hospital, "several followed tonsillectomies." Manges reported nine cases in his series, six of which occurred in a period of six months at Mt. Sinai Hospital. Twenty per cent. of all lung abscesses are post-tonsillectomy in origin." In Michael Reese Hospital, three appeared a short time after tonsil operations under general anesthetics." It is notable that the most deplorable sequellae occur in cases that have been operated upon under general anesthesia. Now, what is more natural than that, when the laryngeal reflex is obtunded, the blood and discharges should be drawn into the larynx, trachea and lungs? Even in the case of Prof. Langerhan's child, who expired after an injection of diphtheria antitoxin, Prof. Edwin Klebs called attention to the possibility that "the death occurred by the introduction of stomach contents in the bronchi." T. A. McKenty says, "aspiration accounts, I believe, for the majority of these cases." N. L. Wilson and Frank Billings concur in that opinion. James B. Herrick ascribes the lesion to an embolism. Frank believes that metastatic infections produce some of these abscesses. He cites many other cases and the views of J. C. Beck and numerous operators.

Hemiplegia Following Tonsillectomy.

G. F. Gracey (*Laryngoscope*, Jan., 1917) reported a rare case of this unfortunate sequel to this operation. A boy of 19 years complained of indefinite pains, sore throat, headache and constipation. Examination revealed chronic granular pharyngitis, enlarged tonsils of the follicular type with cryypts containing cheesy exudate. The tonsils were dissected out under gas-ether anesthesia. Hemorrhage was more copious than usual, probably due to a seizure of coughing during the operation. This was controlled by "pressure in the right fossa with a sponge saturated with adrenalin and bismuth subnitrate." No further bleeding occurred. Two days after the operation the patient exposed himself to a cold wind and was indiscreet in his diet. That night he had a chill with pain in the region of the right frontal sinus. The temperature mounted to 105 F. Further chills occurred on subsequent days, and on the fifth day he began having convulsions, and the temperature at one time was 106:2 F. On the seventh day a left-sided paralysis developed, and disturbances of sensation were present. A diagnosis of cerebral embolism was made. There was no Klebs-Loeffler bacillus, and the Wassermann test was negative. Death

occurred on the tenth day. No post-mortem could be had. The probable diagnosis seemed to be an embolism in the motor area sufficient to produce a left hemiplegia, causing an adjacent localized meningitis.

Pulmonary Suppuration Following Tonsillectomy.

Howard Lilienthal (MEDICAL TIMES, Jan., 1917) speaks of a "number of patients suffering from pulmonary suppuration for months and even years following this operation. At Mt. Sinai Hospital the writer has observed 15 cases of so-called lung abscess due to this cause. It is estimated by Wessler that fully one-third of the pus infections of the lung examined in the radiographic department of this hospital were secondary to tonsillectomy in narcosis. Nearly, if not quite, all of the cases followed tonsil operations in general anesthesia, with its lowering of the expulsion reflex so notable in the throat during consciousness. Therefore, the writer believes that the operation of tonsillectomy in the adult should be performed in local anesthesia." Undoubtedly blood and bacteria are aspirated into the lower respiratory tract during general narcosis.

It is noteworthy that we never heard of these disastrous conditions following the removal of the tonsils before it became the fashion to dig down deep enough into the tissues to extirpate every vestige of the gland under general anesthesia. When tonsillotomy was the rule, leaving a flat cushion formed of the base of the gland over the aponeurosis, all the essential benefits were obtained, generally without any anesthesia, and the unfortunate sequellae characteristic of tonsillectomy were unknown. The pendulum will undoubtedly swing from the present "capital operation" to the former simple and safe operation of tonsillotomy.

James E. Reeder (*Laryngoscope*, Jan., 1917) referring to tonsillectomy, says: "You hear of just such results as I have related much more frequently now than you did two or three years ago. It means that an operation which has far-reaching benefits when indicated and properly carried out, is being rapidly placed in disrepute with the laity. Aetius, writing in the early part of the sixth century, was the first to object to the complete removal of the tonsils, saying, 'Those who extirpate the entire tonsil remove at the same time structures which are perfectly healthy, and in this way also give rise to hemorrhage.'"

Epithelioma of the Posterior Pharyngeal Wall Cured with the Electrocautery.

Dunbar Roy (MEDICAL TIMES, Nov., 1917) reports the case of a female, 27 years old, who complained of sore throat and throbbing for three months. There was a "rounded ulcer on the posterior wall at its center, with dirty grayish edges sharply defined, about one-half inch in diameter, and extending as deep as the superficial aponeurosis." Examination showed that it was epithelioma. "Removal by means of the electrocautery point was effected, well outside of the edges. No reaction and no discomfort followed. Healing was perfect under one application. After three years there are no signs of a return."

Lingual Tonsil.

Herman B. Cohen (*Laryngoscope*, Sept., 1917) presents an extended series of observations on the lingual tonsil, arriving at the following conclusions:

"I. The lingual tonsil is greatly neglected in the examination of the throat.

"II. Hypertrophy is a more frequent occurrence in females than in males.

"III. Varicose condition of this tonsil is a frequent association of hypertrophy and is present in persons with disturbed circulation, being especially frequent in tuberculous patients. In my work at the Lucien Moss Home for Tuberculous and Incurable patients, practically all of the tuberculous patients have varicose lingual tonsils.

"IV. In my study of 55 patients with diseased lingual tonsils the time of more frequent occurrence was between 30 and 45 years of age.

"V. I firmly believe that there is some connection between the lingual tonsil when hypertrophied or otherwise diseased and ovarian disturbance, possibly a similar connection to the congestive swelling and sensibility of the tuberculum septi and anterior end of the inferior and middle turbinates in dysmenorrhea."

Aural Furunculosis.

Harold Hays (MEDICAL TIMES, Sept., 1917) has found in the majority of cases that the causative organism has been the staphylococcus aureus. In two cases the destructive inflammation broke through the posterior wall of the ear canal and eventuated in mastoiditis. "The predominant organism in both of these cases was the bacillus coli communis." "One may avoid any serious developments in the majority of cases by the careful application of a one per cent. yellow oxide or mercury ointment."

He makes a deep incision, under gas, in preference to ether or chloroform. After the incision, the canal should be packed with a thin strip of gauze, soaked in a solution of aluminum acetate, and kept soaked for 24 or 48 hours.

PROGRESS OF OTOLOGY FOR THE YEAR 1917.

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The question of a more complete understanding of the static labyrinth by the otologist has been the leading subject of investigation during the past year. The static labyrinth is that part of the internal ear that enables the individual to maintain his position in space and direction. It is connected with the nerve centers in the brain stem, cerebellum and cerebrum. The static labyrinth is composed of the semicircular canals, utricle, saccule and labyrinth divisions of the auditory nerve.

Bárány, about eleven years ago, demonstrated the value of cold and warm water irrigation in the diagnosis of internal ear diseases. The otologists became, after the revival by Bárány of the theory of irrigation, interested in this subject and to a greater extent since the introduction of aviation into the military service. Aviation has now become one of the important services of the Army. The demand for skilled aviators is very great and those desiring to enter the service must possess a perfect physique. They must have accurate eyesight, normal cardiovascular system, normal hearing and pointing, a normal nose, throat and lungs.

Stenosis of one or both sides of the nose from deflection of the septum or hypertrophies must be corrected before the applicant will be enlisted in the service. Those with epistaxis, unless the trouble is corrected, are rejected.

They must possess a perfect binocular vision. There must be no sinuses diseases or diseases of the teeth. He must not falter in the Rohmberg test or fail to walk a straight line with his eyes closed. He must rise upon his toes for one minute without faltering and above all have a normal labyrinth so that he may have a sense of direction in fog, rain and all altitudes. Probably the

most instructive contribution to the subject was one by Major Isaac H. Jones and Dr. Lewis Fisher in the *Annals of Otology, Rhinology and Laryngology,* March, 1917.

Most men in medicine know something of the static labyrinth, and to repeat, the labyrinth is composed of the vestibule, the utricle, saccule and semicircular canals and vestibular branches of the auditory nerve. It is the semicircular canals that we are most interested in and the different nerve connections with the cerebellum. The movements of the endolymph in the semicircular canals upon the hair cells of the different ampullas of the canals and when disturbed by disease or induced motion, will produce nystagmus, vertigo, nausea and sometimes vomiting.

Nystagmus that we have to deal with is a slow pull of the eyes to one side and a quick pull to the opposite side. The slow component is always in the direction of the flow of lymph in the plain of the irritated canal. The nystagmus is always said to be to the side of the quick pull.

There are four recognized methods of testing the labyrinth.

1st. The rarefying of air in the auditory canal.
2nd. The irrigation of the ear with cold or warm water.
3rd. Galvanization.
4th. Rotation.

Rarefaction of the air is performed by a Politzer bag and the air is compressed against the internal ear and if there is a perforation in one of the canals, especially the horizontal or vertical and the canal is functionating, there will be a nystagmus.

Irrigation with cold water is the most convenient way to test nystagmus. The head of the patient sitting in an upright position is bent forward at an angle of 30 degrees and irrigated with cold water, will get a quick pull of the eye to the opposite side of irrigation. The irritation is rythmatic and rotary in character. The use of hot water or warm water above the temperature of the body produces nystagmus on the irritated side.

To discover the normal induced nystagmus of the eyes, vertigo, nausea and pointing, a special whirling chair that can be automatically stopped at any whirl of the chair, ten or twenty whirls and in so many seconds is necessary. The pointing test after turning is called past pointing and is explained in a later paragraph.

Normally with a patient sitting upright and with eyes closed, with arms lifted vertical, the patient will always point in the direction indicated by the examiner. If his cerebellum is diseased he may point in any direction as indicated by his inability to touch the finger of the examiner, which is held in front of him.

In past pointing, the patient is turned ten times in ten seconds to the right, with eyes closed, his right arm should pass a point to the right about fifteen inches, after stopping of the chair and gradually come to a normal pointing. If the arm or arms do not pass point, there is probably some lesion in the cerebellum.

The nystagmus, pastpointing and falling after turning are tested. The turning chair must have a headrest which will hold the head 30 and 60 degrees forward, a foot-rest and a stop-pedal.

The following method of testing for nystagmus, pointing and falling after turning, are recommended by the United States Army.

(A) *Nystagmus.* Head 30 degrees forward, turn candidate to the right, eyes closed 10 times in exactly twenty seconds. The instant the chair is stopped, click the stop-watch, candidate opens his eyes and looks straight ahead at some distant point. There should occur a horizontal nystagmus to the left of 26 seconds' duration. Candidate then closes his eyes and is turned to the left; there should occur a horizontal nytsagmus to the right of 26 seconds' duration. The variation of 8 seconds is allowable.

(B) *Pointing.* 1. Candidate closes eyes sitting in chair facing examiner, touches the examiner's finger held in front of him, raises his arm to perpendicular position, lowers the arm and attempts to find the examiner's finger. First the right arm, then the left arm. The normal is always able to find the finger. 2. The pointing test is again repeated after turning to the right, 10 turns in 10 seconds. During the last turn the stop-pedal is released and as the chair comes into position it becomes locked. The right arm is tested, then the left, then the right, then to the left until he ceases to pastpoint. The normal will pastpoint to the right 3 times with each arm. (3) Repeat pointing test after turning to the left.

(C) *Falling.* Candidate's head is inclined 90 degrees forward, turn to the right 5 turns in ten seconds. On stopping candidate raises his head and should fall to the right. This tests the vertical semicircular canals. Turn to the left, head forward 90 degrees, on stopping the candidate raises his head and should fall to the left. Unless each test is normal it is a cause for rejection. (Special Regulation No. 50 Aviation Section, Signal Corps 1917, War Department, and Circular No. 2, War Department, November 1, 1916, and the physical requirements of recruits will govern 22 to 32 inclusive.)

Deafness is presumed to excuse one for service in the Army. One is presumed to hear a whisper for twenty feet out of either ear, but many are taken into service with less hearing. If their defect is not too great they may be taken into the auxiliary military service. In a Bárány test you may with a noise apparatus determine whether or not a malingerer hears out of a presumed bad ear. He is instructed to read aloud, if he raises his voice, he hears from the bad ear and in that way the operator can suspect the applicant is misrepresenting his ability to hear with one ear. There are only a few malingers and it is difficult to be always positive as to the claim of an alleged deaf man. "A cochleopalpebral test is said to be an involuntary closing of the eyelids when a sudden and unlooked for sound is heard close to the ear."

Two tuning forks vibrating at the same time, one high and the other low, the sound is directed to the side of the higher fork, will be heard on the side of the high fork if normal in both sides. Another method suggested is "with the soldier standing with his face in opposite direction, direct him to close one or the other ear and raise his opposite hand when he hears a certain word spoken at twenty or thirty feet and direct the soldier to raise his hand when the speaker is heard to say the word. The examiner may advance repeating the number or word until the man raises his arm. If totally deaf or under one meter or a little more, he makes no response."

Focal Infection of the Nervous System.

Organic changes in the central nervous system probably due to focal infections are discussed by George W. Hall, Chicago, who quotes a number of authorities on the subject and reports three cases in which diagnosis of degenerative changes in the spinal cord were personally observed by him and attributed to focal infection of which there was a history. In two of the patients there were positive arthritic changes in the vertebrae. —*(J. A. M. A.)*

PROGRESS OF THE ALCOHOLIC PROBLEM.

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Reformers for half a century, and reformed movements to banish alcohol as a beverage, have been gathering like a storm, and during the past year has assumed a prominence among the foremost problems of medico-psychologic interest. The economic and hygienic side, indicating the losses and direct injuries from the use of spirits, have assumed a mathematical statement of conclusions that produce profound changes of public sentiment. The moral and sentimental side has receded to a large degree, and the question of prevention is coming to the front. Studies of health officers, life insurance companies, hospital surgeons and physicians, are accumulating facts and data, showing that alcohol on the brain and body is an insidious poison of far reaching effects.

The work in the laboratories has been confirmatory of previous views, rather than revolutionary in the discovery of new facts. Statistical studies have shown that next to syphilis, it is the most common cause of diseases and degenerations of the body. Studies of the the effect of alcohol on the glandular system, and especially on sperm cells and ovaries have enlarged the conception of earlier observers, and indicated a persistency of degenerative effects that were not suspected before. Studies of foods and their value have been carried on in different hospitals and centers of research work, but all have reached about the same conclusion, that the food value of alcohol is extremely doubtful. The conclusions on which this theory was based have varied widely, and the theories and explanations are offered as explaining many of the mysteries not yet settled. Serum therapy has contributed both directly and indirectly some very suggestive conclusions concerning the poison effect of spirits, and this upsets many of the previous theories considered settled.

In the realm of physics, particularly in the study of electric currents, and the vibratory activity of physical energies, it has been shown that alcohol is a direct paralyzer of molecules and electrons, changing their course and diminishing their power. Some experiments here in small doses of spirits and beers have been remarkable in indicating low vitality and physical changes. In the clinical world conditions that favored the continuance of fevers and digestive diseases have been traced to the effects of alcohol. Some very interesting papers have been written, which if confirmed by future studies, will change many of the theories of the present. Questions of how far alcohol assists the physiological action of drugs are being asked and answered in various ways. Some very startling facts are observed which will have to be worked out in the future, before they can be stated with any degree of positiveness.

The treatment of alcoholism in inebriety, even among the empirics, has become more rational, and the discovery of so-called drugs and cures is rarely heard. A Research Work at Hartford, Conn., has started the inquiry of "Why Men Drink?", and proposes by exhaustive studies, both physical and psychical, to determine what causes are favorable and active in producing this neurosis. It is clearly evident that the breaking up of the saloon and the use of spirits as a beverage is going to project a large army of neurotics into prominence, for which there has been little or no studies in the past. Already this work has outlined some ranges of causes that indicate unknown laws and the operation of forces that are yet to be studied.

The question asked "why men drink" and what conditions of life and vigor called for narcotism of spirits and drugs must be answered from a scientific study in a field, that is practically unknown at present. There are evidently causes back of the saloon that culminate in the army of moderate drinkers, and finally in the alcoholic and inebriate as well as the drug taker, which must be found and studied before the best preventive means and measures can be used. The psychological wave of prohibition has a very startling interest to every physician because he must take part in it. If he thinks this measure is impractical, he must suggest something better, and whatever his personal opinions may be, he must be prepared to treat the patients of this class, and to give scientific and practical advice, that will appeal to his patrons. The physician is evidently to become the final arbitrator of the alcoholic question which must be treated from a scientific side, regardless of all theories and opinions. It is also evident that the year has been the beginning of an entirely new range of practical science and preventive measures in which the customs of the past, and the theories so confidently held, are to disappear. Many of the evils that have been tolerated in the past are to be examined, determined and treated on a different plane than ever before. Laws will be passed, and the consciousness of the people will sustain them, however radical they may be. The certainty that alcohol will be banished as a tonic, food or beverage has aroused new interest in the heat, light and power producing effects of alcohol.

A few years ago Dr. H. W. Wiley proved conclusively that alcohol had three times greater power than gasoline oil, and could be used for heat and lighting with great economy. Several inventions were patented, but for some reason the matter dropped out of sight. Recent chemical researches have revived the subject of producing cheap alcohols from waste materials containing starch and vegetables and indicated that crude alcohol can be made at a very low price with very little apparatus and in all parts of the country. This has opened a new field for the manufacture of spirits which they are certain to occupy in the near future. A number of inventors are working on apparatus to practically use alcohol in the place of gasoline, oils and coal with great promise of developing an entirely new industry that will revolutionize the heat and light problems of the present. These facts give new interest to the Prohibitory movement, and the intense efforts that are being made to conserve food products, that are now being used in the manufacture of spirits and beer.

In the meantime the problems of what to do with the paupers and degenerates who are the direct results of spirit drinking have been re-examined, and the conclusions that they should be made self-supporting in part in farm homes is attracting more attention than usual. Several experiments on a small scale by isolating these pauper dependents and criminals have proved satisfactory and it would seem that the era of palatial building of hospitals has passed away. Farm hospital in the country has been the subject of several interesting papers during the year by medical men and the public have readily recognized the practical character of such means of control and treatment. A study of pauper patients made in Chicago indicated that about 2 per cent. of the population were feeble-minded and dependent, and fully 10 per cent. were degenerates from alcohol; also that in the paupers of that city at least 80 per cent were due to this cause. Statistics like these arouse an immense interest in the prohibition move-

ment, and draw new attention to the great underlying causes for which hereditary is very prominent. The sentimental side of the subject must necessarily give way to the hard scientific facts of cause and effect. Physicians look with anxiety on this new field that is rapidly coming into their province for their study and treatment. It is a curious fact that less than a dozen of the medical colleges in the United States give any instructions on these most intensely practical problems concerning alcohol and drug-taking. The result of this is a lamentable lack of knowledge among men who are thoroughly trained in other branches of medicine, but who in this subject defer to laymen and clergymen, rather than study the subject themselves.

A new era is coming and with all the revolutions of the present this will be as prominent and even more practical than many of the so-called changes that are disturbing the community.

PEDIATRIC REVIEW FOR THE YEAR 1917.

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A review of the scientific work done during the last year, in pediatrics, would necessitate several volumes of printed matter. It is felt that the more practical points dealing with vital subjects for the general practitioner should be considered.

Acidosis With Diarrhea.

A contribution by Schloss and Stetson in the *American Journal of Diseases of Children,* March, 1917, gives a very careful resume of the management of this condition so frequently met with. They say that:

"The acidosis is best treated by the administration of sufficient sodium bicarbonate to increase the carbon dioxid to normal or to render the urine alkaline. Provided that the urine is tested fresh, the two tests are of about equal value and in a number of cases we found that almost coincidentally the urine became alkaline and the carbon dioxid normal.

"According to our experience, the most satisfactory method of administration is by intravenous injection. It is a very difficult matter for these infants to take by mouth and to retain the required amount of alkali, and unless a sufficient quantity be given the treatment is practically useless. We have also tried the administration of sodium bicarbonate by rectal instillation (Murphy drip), but the results were unsatisfactory. The fluid was usually expelled, and in no instance was a sufficient amount absorbed to influence the carbon dioxid values. To give the alkali subcutaneously requires careful preparation of the solution and the injection of a comparatively large amount of fluid in relation to the size of the infant.

"The intravenous in jection of 75 to 150 c.c. of a 4 to 5 per cent. solution of sodium bicarbonate is usually sufficient for the first treatment. If the dose is adequate the carbon dioxid becomes normal and in many instances above normal, hyperaemia ceases and there is great improvement in the general appearance of the patient. This change is very striking to observe: the face loses its drawn appearance, the patient becomes alert and comfortable and the skin softer and more elastic.

"Whether the first dose of bicarbonate is sufficient can be determined by the change in the carbon dioxid[2] and the general improvement in the patient. In addition to the intravenous injection it seems advisable to give sodium bicarbonate by mouth in 2 to 5 per cent. solution so that the patient will receive 2 to 5 gm. per diem in this manner. Within eight hours a second intravenous injection should be given if necessary. The necessity for repeated injections has been present in most of our cases, and the best results have been attained in those which were most carefully observed and the sodium bicarbonate repeated as soon as the carbon dioxid is again below normal.

"Unless the infant is moribund, improvement frequently occurs, but despite this improvement the patient often succumbs. Death has occurred in 86 per cent. of the cases. These results, however, include the earlier cases in which the infants were not thoroughly treated, and also a number of infants who survived the acidosis, but died later of malnutrition. The results in our more recent cases have been more satisfactory. In the cases in which the acidosis has been thoroughly treated, the fatal outcome has been due to one of two causes. 1. Recurrence of the acidosis. This has occurred in a few instances and the acidosis has been very acute and quickly fatal. 2. The usual circumstance is that the infant develops malnutrition of a very severe grade and despite all resources of feeding, gradually wastes away. It would seem that there is some profound disorder of metabolism of which the acidosis merely is a symptom.

"There remains one point for further discussion, namely, the dietetic treatment. At present little that is definite and positive can be said, and a successful dietetic therapy can be achieved only by a thorough understanding of the basic nutritional fault. We have usually given nothing save the bicarbonate solution, or water, for the first twenty-four to seventy-two hours. Later we have given some form of cereal gruel and then diluted protein milk. The sugar has been kept low for some days and carbohydrate given mainly in the form of cereals.

"Owing to the frequent presence of sugar in the urine and a normal or increased blood sugar in these cases, we deem this procedure advisable.

Summary.

"Infants suffering from severe diarrhea with toxic symptoms often show the following signs of acidosis: 1, decrease of the carbon dioxid of the blood and alveolar air; 2, decreased carbon dioxid combining power of the blood plasm; 3, high ammonia coefficient in the urine; 4, increased tolerance to sodium bicarbonate; 5, improvement of the symptoms after administration of sodium bicarbonate.

"These signs are evident in some cases of diarrhea before the typical symptoms of intoxication have developed, and serve as a warning and therapeutic indication.

"If an infant suffering from severe diarrhea has hyperpnea, the diagnosis of acidosis is almost certain. If hyperpnea is not observed the diagnosis of acidosis must rest on laboratory evidence.

"Thorough and carefully controlled treatment by sodium bicarbonate usually causes disappearance of the acidosis, but despite this, the infants frequently die from a severe form of malnutrition."

The Specific Diagnosis of Tuberculous Meningitis.—Because of the frequency of this disease and the difficulties that its diagnosis presents the paper of Michio Kasahara of Japan in the *American Journal of Diseases of Children,* February, 1917. This investigator found that by injecting tuberculin into the spinal canal in doses of 0.01 to 0.002 a satisfactory result was obtained. After diluting the tuberculin with physiologic salt solution he proceeds as follows: The required quantity of spinal fluid is removed by lumbar puncture for cytologic examination and tuberculin is injected. After 5, 12 or 24 hours following the injection of diluted tuberculin a comparative cytoligic examination is made. In tuberculous meningitis specific reactions follow the intradural injection of tuberculin. Cytologic examination after tuberclin injection shows an increase in the number of cells in general. There is an increase in the red cells, a considerable increase in the lymphocytes, and a moderate increase in the polynuclear leucocytes.

A comparative study was made with children suffering from suppurative meningitis, epidemic cerebrospinal meningitis and chronic hydrocephalus, with negative results. It is believed that the diagnosis of tuberculous

[1]If a scalp vein of sufficient size is evident this may be used. In most instances, however, it is necessary to expose a vein by incision or to give the injection into the superior longitudinal sinus. (Tobler: *Monatsch. f. Kinderh.*, 1915, 13, 384; Helmholz: *Amer. Jour. Dis. Child.*, 1915, 10, 194.) The latter seems preferable in every way. The fluid is best given by gravity and should be given slowly. A cylinder with a capacity of 30 to 10 c.c. may be used. One end of a piece of rubber tubing is attached to the cylinder and the other end has a connecting tip which fits into the needle. It is of advantage to have a stopcock either at the end of the cylinder or near the end of the tubing. The needle is inserted with a small syringe attached, and by slight aspiration one can determine whether the sinus has been entered. If so, the syringe is detached and the apparatus for the injection, which has been filled, and the air expelled, is connected. A needle ½ inch long, of 20 to 22 gauge, and with a short bevel point, is of advantage in entering the sinus.

[2]For several months we have used the colorimetric apparatus devised by Marriott (*Jour. Am. Med. Assn.*, 1916, 66, 1594) which greatly simplifies the determination of carbon dioxid in alveolar air. A comparison with other methods has shown that the results are sufficiently accurate for all clinical purposes.

meningitis by the intra-dural injection of tuberculin is simple and specific. The specific reaction consists in an increase of the red cells.

Poliomyelitis.—Since the epidemic of 1916 so many diagnostic and therapeutic measures have been reported that it is felt a condensed report will prove interesting. In a review of Poliomyelitis by A. B. Schwartz of Milwaukee, published in the *American Journal of Diseases of Children*, August, 1914, the more important symptomatology and epidemology is considered. It seems well established by the large number of scientists that the globoid bodies first described by Flexner are the real causative factors of this disease. While all observers note the occurrence of fever as the most constant initial symptom Fischer[3] states that the fever usually persists from three to five days, though it may last from seven to fourteen days. In severe forms, a sudden rise occurs, lasts about forty-eight hours and declines by crisis. There is no characteristic febrile curve that is pathognomonic of poliomyelitis.

Draper considers the "spine sign" as one of great value in early diagnosis. This consists in an attempt to flex the spine forward. Any such manipulation produces pain and is resisted by the patient.

Fischer[4] considers Colliver's sign as one of the valuable preparalytic evidences of the disease. This is a peculiar twitching, tremulous or convulsive movement. It usually affects a part or whole of one or more limbs, the face or jaw. It may also affect the whole body.

Gordon[5] calls particular attention to the examination of the reflexes in the early diagnosis of suspicious cases. The patellar and achilles reflexes should be investigated. Even a diminution of these reflexes should put one on guard for this disease, particularly during an epidemic.

"The early examination of the spinal fluid seems to offer the most useful single procedure available in the early diagnosis. Abramson[6] mentions the usual findings as follows:

1. Fluid is increased and under pressure.
2. Fluid is clear as a rule.
3. Albumin and globulin increased.
4. Fehling's solution reduced in the majority of instances.
5. Cells increased.
6. The predominating cell type is the small, mononuclear, which may constitute 90 per cent. of the cells present. In opalescent fluids one may find the polynuclears increased, as high as 75 per cent. Abramson has also noted the presence of glialike cells and endotheloid cells."

Zingher[7] thinks the cerebrospinal fluid quite characteristic even in its early stages. He says: There is an increase in the total number of cells, from 20 to 600 or more. These cells are mostly lymphocytes, with a small proportion of large mononuclear and polynuclear cells. During the earliest stages of the disease there may be a transient relative and absolute polynucleosis. There is an increased amount of albumin, globulin and substance which reduces Fehlings' solution. Often on the surface of the spinal fluid, as it is being drawn into a test tube, a thin filament of fibrin appears, which breaks up into small flakes when the fluid is gently shaken.

The Early Recognition of Poliomyelitis.—An interesting resume of this subject is presented by R. S. Haynes in the June issue of the *Archives of Pediatrics*. He shows that a study of Kaling and Levaditi in 1911 established the following facts:

(1) The probability of the introduction of the disease by an immune carrier.

(2) That the incubation period of the disease is usually short, one or two or three days.

(3) That the illness is ushered in by a group of symptoms which may be so insignificant as to be quite overlooked; that this may be all and yet the serum of such an individual may prevent or retard the experimental disease in monkeys; that these early symptoms may be sharp and severe.

(4) That the initial symptoms are followed by a period of good health in one to three days' duration usually, but exceptionally of a duration of several weeks.

(5) That a second group of symptoms may then follow which are almost always chiefly referable to the nervous system; that these may result in complete recovery, or paralysis or death.

(6) That when contact between persons is close, as in families, most of all members have an illness of sorts which may take any form of poliomyelitis or coryza, angina, diarrhoea, vomiting, headache, fever or dizziness of any grade of severity.

(7) That when contact between persons is short, or not close, even if the same house be occupied, or adjacent seats in school, communication of the disease is unlikely.

(8) That where there is no contact between individuals there is no disease.

(9) That the use of milk, food supplies or water in common may not result in transmission from a sick person even to an individual of susceptible age.

(10) That infectiousness may be present in the individual before the onset of any symptoms, *i. e.*, in the incubation stage.

(11) That infectiousness may persist after the subsidence of the prodromal symptoms for several weeks, during which the individual may be well.

(12) That of a population in contact with poliomyelitis about 50 per cent. will show signs of illness, of whom again 50 per cent. or less will have nervous symptoms. Figures correct only for this epidemic, suggestive for others.

(13) That all ages are affected; about 65 per cent. being under 16.

(14) That when poliomyelitis is introduced into a community it tends to spread rapidly to all susceptible persons, do its utmost and cease abruptly.

(15) That in a community there are families apparently immune, and among families, persons immune.

(16) That a forced and complete cessation of contact quickly suppresses the disease.

From these facts it becomes evident why early recognition of poliomyelitis is necessary to proper prevention of the disease.

An important symptom in the diagnosis, upon which great stress has been laid is "when a child is held by the neck and buttocks he tends to arch his body, and to throw his head back." There is tenderness along the spine. Great stress is laid on this spinal sign by Draper. The spinal fluid shows a few characteristics such as albumin and globulin present, likewise a sugar reducing substance. Lange's colloidal gold reaction gives a positive reaction. There is a large cell increase in the spinal fluid consisting chiefly of mononuclears.

Infant Feeding.—Many changes in the dietary of infants have been made during the last few years, notably, however, is the feeding of large quantities of vege-

[3] Fischer, Louis, *Medical Record*, New York, 1917, 91, 52.
[4] *Med. Record*, New York, 1915, 90, 194.
[5] Gordon, A., *New York Med. Jour.*, 1916, 104, 583.
[6] Abramson, H. L., *Med. Record*, New York, 1916, 90, 793.
[7] Zingher, A., *Jour. A. M. An.*, 1917, 68, 817.

tables to the infant under one year, because of the richness of the vegetable in earthy salts. The secondary anemia so often seen in children fed on an exclusive milk diet during the second year can be rapidly improved by the addition of vegetables to the dietary. Bartlett, of New York (American Pediatric Society, Twenty-ninth Annual Meeting, White Sulphur Springs, W. Va., May 28, 29 and 30, 1917) advocates the addition of green vegetables to the dietary of young infants. He says, "It was believed that their value was due to the effect on the mineral metabolism." The secondary anemia of infants fed too long a time on an exclusively milk diet was easily explained by the small amount of iron in cow's milk. Instead of making use of drugs to supply the needed iron, green vegetables had been fed to many children in the wards and the out-patient department of the Babies' Hospital. The plan had been followed with children as young as 6 or 7 months. Infants thus fed had shown an earlier closing of the fontanel and generally greater activity than those fed without such additions to their diet. This beneficial effect had been variously explained as due to the mere addition of an increased quantity of salts, to the particular combinations of the bases with the inorganic and organic acids present which provided the salts in an especially suitable form by the organism, and, that the value of the vegetables lay in a biological or so-called vitamine effect. The general opinion was that the mineral content was the important factor, and they had studied the subject from this viewpoint. They had studied the actual mineral content of the vegetables as ordinarily prepared and administered. It was obvious that the water used in cooking extracted more or less of the constituents and it was not a common practice to give this with the vegetables.

They undertook an analysis of cooked vegetables considering separately the solid portion ordinarily given as food and the water used in cookng. They estimated the content in grams of solids of vegetables prepared by boiling, taking spinach, New Zealand spinach, young carrots, onions, string beans, asparagus and potatoes, and estimating the solids, ash, calcium magnesium, phosphorus, potassium, sodium, sulphuric acid, iron and also total nitrogen and nitrogen as protein. They estimated the percentage lost in water under ordinary boiling conditions; compared the percentages lost in the water with long and short boiling, and compared the percentages lost in water by steaming and by boiling; and also the content in grams of vegetables prepared by steaming of the various constituents, and the approximate content of one tablespoonful of steamed vegetable of the various constituents. Spinach showed the highest total salts, containing from two to three times as much ash as any of the other vegetables studied. The preponderance was largely due to calcium and phosphorus. The iron was highest in New Zealand spinach; ordinary spinach and carrots being next. The iron in onions was very low, while asparagus had only a trace. The table plainly showed that spinach was the most efficacious in supplying mineral salts. New Zealand spinach did not belong to the family of ordinary spinach. It possessed the advantage of being available for a continuous supply throughout the summer, while ordinary spinach was not so easily obtained. The analyses showed an excessive waste of salts if the water in which the vegetable was boiled was discarded. It ranged from over a quarter of the total ash of onions to nearly three-quarters of that of New Zealand spinach. In the others the loss was about one-half the total. Calcium was the only constituent which was not affected. The examination of potatoes showed so small a loss of total solids that the analyses were not carried through. The saving of salts by shorter boiling was insignificant. The only exceptions to this were the calcium and chloride in the beans and the sulphate in spinach. Steaming was then tried, a rice steamer being used. The vegetables were held in a tightly covered receptacle with a rather finely perforated bottom. Any type of steamer which held the vegetables out of water would undoubtedly do as well. Steaming was found to be the most economical method of cooking for preserving the salts. The remarkable saving of salts by this method should be emphasized. In spinach the loss was about one-half what it was by boiling. The effect of steaming on New Zealand spinach was more variable than in the case of other vegetables. Sodium was lost in a high degree even in steaming. There was a slightly greater loss of calcium by steaming than by boiling, but since the calcium loss was slight in any case this was of little importance. One hundred grams of the edible portion of uncooked vegetable when cooked yielded approximately 3 tablespoonfuls of all but carrots which yielded about 4. If a steamer was not available the steaming might be done in a double boiler, placing no additional water in the inner boiler. There was very little difference between this method and steaming, the difference being in favor of steaming.

The Vitamine Therapy.—Numerous papers dealing with this subject have appeared from time to time. Among the many, Funk, M. Stark, A. F. Hess and L. Fischer have contributed or discussed the relationship of the vitamines to the deficiency diseases. Stark advocates the use of autolyzed yeast based on Funk's experiments, and he believes that growth and the metabolism of food can be improved thereby. Hess, on the other hand, does not believe that growth is stimulated by the use of autolyzed yeast until orange juice is added to the dietary. Autolyzed yeast which is a thick liquid has served the writer in many instances, and has failed in an equal number of cases. This does not reduce its therapeutic value. Specifics frequently fail because of altered conditions in the body over which we have no control. The internal secretions are absent, or they do not exert their potential energy.

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A REVIEW OF DERMATOLOGY AND SYPHILIS DURING THE YEAR 1917.

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The present year in dermatology, excepting for the work done in the United States, has been comparatively unproductive. Questions of the relationship of metabolism and anaphylaxis to the causation of skin diseases have been touched upon, and a certain amount of routine work in syphilis has been done; but on the whole the attention of the medical world has been focused upon more immediately practical matters than dermatological research.

Miscellaneous.

Elliott[1] reports a case of elephantiasis nostras, with

very careful histological studies, stating his belief that the Streptococcus of Fehleisen is the causative agent.

Olson[2] believes that certain forms of argyria can be beneficially influenced by hydroxylamin.

Simpson and Beeson[3] report further cases of blenorrhagic keratoma, and conclude that the lesions are definitely due to the presence in the skin of gonococci which arrived there through the circulating blood.

Izar[4] found the sporothrix in the depths of unbroken lesions in Hebra's prurigo. Inasmuch as it is well known, however, that various fungi are capable of producing papular lesions, it would not be surprising to find mycotic diseases resembling prurigo; thus it would be necessary to have further corroboration of Izar's findings before they could be accepted.

MacKee and Rosen[5] comprehensively deal with congenital ichthyoform erythrodermia, concluding that the condition is a variant of ichthyosis.

Blaisdell[6] reports the first case of sporotrichosis in New England.

Stokes[7] describes a true nevus of the sweat glands, warns of the possible malignancy of the condition, and advises radical treatment.

Granuloma Fungoides and Allied Conditions.

Cole[8] describes two groups of cutaneous lesions occurring in Hodgkin's disease. The first consists of true granulomas; the second are incidental infections. He mentions that the cutaneous manifestations may be the first indication of the disease, and enumerates, as the most common skin symptoms, pruritis, prurigo-like lesions, and exfoliating erythrodermias. Wheals, local edemas, various types of pigmentation, hyperhidrosis, alopecia, skin atrophy, etc., are also mentioned.

Alderson[9] describes a case of cutaneous Hodgkin's, with ulcerating, granulomatous areas which, clinically, resembled gummata, while histologically they were distinctly indicative of Hodgkin's disease.

Wise[10] reports a unique case that he considers a plastic leukemia of the skin without cutaneous atrophy associated with the infiltration.

Frazer[11] has contributed the most notable article on the subject of mycosis fungoides to be found in the American literature. To attempt to review it would be to do the author an injustice, inasmuch as not a word that he says should be missed by anyone seriously interested in the subject.

Biological Studies.

Schamberg and Raiziss[13] give the results of their study of nitrogen metabolism in eczema. In a case of chronic eczematoid dermatitis there was failure to maintain nitrogen equilibrium on a low proteid diet; with restricted diet, however, there was no improvement in the skin disease. All of this indicates that the patient with skin disease also had disturbed nitrogen elimination.

Nothing new has been developed in the field of serum therapy, save that Scully[13] has used typhoid vaccines in the treatment of psoriasis. He states nothing convincing as to their value.

The matter of focal infections has been discussed by Lain and Chipman. Lain[14] believes that true herpes zoster is due to a focal infection. This, of course, is illogical, inasmuch as true herpes zoster is a self-limited disease which, occurring once, confers permanent immunity, while focal infection may be sustained for years. Chipman[15] regards the matter from a broader and more suggestive point of view.

Treatment.

MacKee[16] states that, although the *x*-ray may be used successfully in hypertrichosis, the epilation point is too close to that of permanent pathological alterations to justify employing this method in therapy.

Wise,[17] discussing the ultraviolet rays, finds them of less use than radium or the Roentgen rays, but nevertheless of distinct value in many conditions.

Syphilis.

McDonagh[18] states that the spirochaete is not the sole cause of syphilis, but simply the adult male phase of the *leucocytozöon syphilidis*. He has a new blood test, known as the Gel test, which he considers more sensitive than the Wassermann procedure. He gives an elaborate exposition upon parasiticides in the treatment of syphilis. McDonagh's book is incomprehensible on a cursory perusal. The majority of us lack his intimate grasp of chemistry and physics, and are at a loss to understand what to him seems simple, clear and obvious. The fault lies either with him or with us. Either he knows what we ought to know—and in that case it is our duty to inform ourselves; or he makes statements that will ultimately be disproved. To simpler minds the spirochaete, the Wassermann test, and salvarsan seem fundamental. Perhaps McDonagh is a Copernicus and we are his ignorant persecutors; or perhaps the situation is less dramatic. Be this as it may, we cannot lay McDonagh's views aside without at least attempting to understand them. There is a great deal that is unknown about the way in which salvarsan works, and certainly a great deal is unknown about the life cycle of the spirochaete; thus, any new thought on the subject should be welcomed, even though it may have to be discarded after closer study

Noguchi[19] reviews the classification, morphologically, of spirochaetes in a masterly fashion.

Proescher and Seil[20] conclude that the vanadium and the salts of vanadium affect the clinical and serological manifestations of syphilis, but fail to compare the efficacy of these substances with that of those in current use in the treatment of syphilis.

Schamberg, Kolmer and Raiziss[21] have produced a new mercurial compound, *mercurophen*, whose germicidal properties are high. The same authors show[22] that mercury is more active as a bactericide than as a trypanocide, while salvarsan excells mercury in the latter property. Mercury, on the other hand, is more strongly organotropic than salvarsan. These conclusions are distinctly in line with those of Nobl, published two or three years before the war.

These same authors contribute[23] a careful study on the toxicity of salvarsan, pointing out the various sources of possible poisoning, and indicating that when carefully used salvarsan and similar compounds are safer than mercury.

Wile and Elliott[24] studied the modes of absorption of mercury, and conclude that the substance is absorbed through both the lungs and the skin.

Reasoner[25] reports the successful infection of rabbits with syphilis by applying an emulsion of syphilitic rabbit's testicle to the normal mucous membrane of the same animal.

Cole and Payzek[26] were able to prove that the luetin test is non-specific, as non-syphilitics having received iodid of potash give the reaction to luetin. Potassium nitrate, calcium bromide, and sodium iodid predispose to similar reactions, but less intensively.

Stokes,[27] using agar intradermically, was able to produce reactions similar to the luetin in syphilitics and non-syphilitics.

Ormsby,[28] after six years' experience, considers salvarsan the most efficient antisyphilitic drug.

Swift,[29] reviewing the question of treatment in cer-

tral-nerve syphilis, concludes that the intraspinous method plus the intravenous is more satisfactory than either alone, and this applies even to tabes.

Sachs,[30] in a long review of the subject, condemns the intraspinous method. Fordyce[31] replies, in a convincing article favoring the method. The two writers disagree largely because the former has failed to grasp the essential fact that the latter is dealing with early cases and not with those forms which are beyond therapeutic hope, such as paresis and late tabes. To anyone conversant with both methods it is quite obvious that the hopeless cases are hopeless to all therapy, but that in a considerable proportion of instances coming within the experience of any man cases which, after having failed to be benefited by intravenous therapy, are benefited by the intraspinous. Whether this is theoretically so or not makes no difference inasmuch as it is actually so, and the "truth about intraspinal injections" is that they have often worked to the advantage of the patient. We will leave the explanation to future investigators; the present facts suffice. Inasmuch as, in a given case, no one can foretell whether the pathological processes have so far advanced or not as to be able to yield to intraspinal treatment, this treatment should always be instituted when there has been no clinical response to the intravenous method.

In paresis, as Hammond, Sharpe and Smith[32] state, the intraspinous treatment offers no ground for optimism. This is in accord with everyone's observation.

Rosen[33] made a careful study of the spinal fluid in early syphilis, and urges intraspinous treatment when the fluid shows early involvement of the central nervous system.

In serology excellent articles have been written by Strickler,[34] who shows that the Gel test is a step in the right direction, but not so accurate as the Wassermann test, and by Slemons,[35] and Smith and Solomon,[36] who confirm findings already known. Ottenberg[37] reviews the entire subject of the Wassermann test, points out sources of error, and reiterates its value.

A great many other interesting articles might be mentioned, but those already quoted sum up the more striking thought in the field of dermatology and syphilis. It is to be deplored that in dermatology so little has been attempted to solve the problems of the causation of skin diseases.

The important questions with regard to syphilis are, the study of the biology of the spirochaete, and the further attempt to perfect chemotherapy. The two problems go hand in hand with a third, namely, a better understanding of the biology of the host, and his reaction to the infective organism. It is to be hoped that the ensuing year will be fruitful as regards these problems. The actual elimination of syphilis, of course, depends on the proper teaching of the subject,—a matter which was taken up at the last meeting of the American Medical Association in three papers by Fordyce,[38] Smith,[39] and Heimann.[40] The three writers agree that the subject should be taught in a central department, either by the Chair of Dermatology, or by a special Chair of Syphilography.

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OPHTHALMOLOGY DURING 1917.

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No marked advances have been made in ophthalmology during the year 1917. Numerous rare and interesting cases dealing with all phases of ophthalmic subjects have been reported and much discussion anent those interesting phases of ophthalmology, such as cataract, glaucoma, eye injuries and refractions, have filled many pages of our medical literature. Speaking of ophthalmic literature, there has been a movement on foot to merge some of the ophthalmic journals and in this way concentrate energies on one larger and more excellent journal, which would certainly prove advantageous to both the publisher and subscriber.

The question of eye injuries and their management still holds the first place of importance because of the world war, and now that the United States has entered

the conflict it is more necessary than ever to discuss this phase of ophthalmic work.

A great deal of importance should be attached to the eye examinations of recruits. The visual standards used in the examination of recruits for the British Army is probably not as high as those used in examining men for the United States Army. This is largely due perhaps to the fact that men are needed more in the former than in the latter army, and hence with us the standards would at present be a little stricter. On the other hand, in France, Germany, Austria, and Italy the vision with correcting glasses determines the acceptance or rejection of the recruit, while with Great Britain and the United States it is the vision without glasses which counts.

In discussing this subject in the *Lancet* of May, 1916, Paterson and Traqueir in their final summary as to their standards in the British Army remark that in view of the present want of men there is urgent need for immediate adoption of a remodeled sight test based on corrected vision on lines of the military visual standards in use on the continent of Europe.

The question of universal standard test types has been a fruitful source of discussion. Dr. Edward Jackson has written a very exhaustive article on this subject which appeared in the *Ophthalmic Record* for March, 1916. So far the "broken ring" test figures seem to be the best adapted for international use, and we believe that the majority of ophthalmologists will find these as the best suited for their practical refractions.

The question of the best management of chronic catarrh of the lachrymal sac with attendant stenosis is still a fruitful source for discussion, and there is far from a unanimity among ophthalmologists.

There is a large number of men who adhere to the old regime of irrigation and gradual dilatation of the lachrymal canal. In many of these cases the patient is made just as comfortable as is frequently obtained by a more radical procedure.

H. Moulton has again called attention to the use of lead styles after dilating the canal. This procedure has given him some excellent results, and the writer can attest its value in numerous cases. Many men prefer the complete obliteration of the lachrymal sac by some surgical procedure. The simplest of these is that advocated by H. Gifford of Omaha, which consists in an external incision thrust directly into the lachrymal sac and then cauterizing the whole interior of the sac with pure trichloacetic acid. This can be done with very slight local anesthesia and frequently gives surprisingly good results.

A new operation advocated by J. A. Kearney is performed best under general anesthesia by slitting both the upper and lower canaliculi, the cutting with a curved bistoury the bridge of tissue left between the two at the inner canthus. This throws open the sac, which can then be thoroughly destroyed by curettage, all necrosed bone removed, painting the whole interior with bichloride of mercury solution (1.50) and bandaging the eye tightly. The writer has never tried this operation, but it has many points of recommendation.

The West operation, or some modification, has been described by several writers. This operation is by no means simple, and it takes a great deal of practice on the cadaver before it can be thoroughly mastered. The writer has seen some of the results of this operation and he cannot see any great advantage over the other simpler procedures.

The old Meller operation, which is so well known, is probably more used in these cases than any other, and certainly the results obtained have been most satisfactory.

The Iris. A very exhaustive and notable contribution as to the toxic origin of iritis has been furnished by Brown and Irons in a paper read before the American Ophthalmological Society in 1916. They undertook to determine the causes of the so-called "rheumatic iritis" in contradistinction to the traumatic forms. These cases were minutely studied in the hospital and the deductions formed must be of decided scientific value. Their conclusions were as follows: "From the clinical study and from our experiments thus far it would appear that not one but several factors are concerned in the production of iritis, among which may be noted the presence of a focus of infection in which bacteria may live and multiply, partially protected from the resisting forces of the host, the periodic entrance into the blood stream of these organisms and their lodgment in the eye, either by means of their great number as in sepsis or by fortuitous embolism. Changes in the eye itself, either in vascular anastomoses or in susceptibility of the ocular tissues owing to previous injury, and finally changes in the organism itself, whereby it may become better able for a time to maintain itself in the tissues of the eye. Such adaptations on the part of the organism do not necessarily imply any demonstrable change in its morphology or cultural reactions.

Cataract. The never ceasing discussion of this important topic still occupies much attention in the pages of ophthalmic literature. Hardly a year passes that some ophthalmologist does not offer a "new method operation," suggested, perhaps, as an improvement over some of the older and well-tried procedures. Each man desires the imprint of his name as the author of some original method in this time-honored operation. Frequently this is unfortunate in that it causes the younger men to be continually changing their methods of operating, and before they perfect themselves in one they are trying another, and in this way never letting themselves become proficient in just one method.

To the writer's mind there are just two methods of operating. The older and the one most universally used is that of opening the anterior capsule and then expelling the lens, and the other being the so-called intracapsular or Smith's operation of removing the lens in its capsule.

One of these methods can be chosen, but when the choice is made the writer believes it best surgery both for himself and his patient to adhere strictly to the one of choice in order to become proficient in that one technic. Experience is after all the best teacher.

Glaucoma.

The subject of glaucoma is still a fruitful source for discussion. The choice of operation is as varied as is the theories of its etiology The trephine operation is perhaps more universally used, although there are still many cases of late infection reported as one of its unfortunate sequellae. The operation of iridotasis as advocated by Harrower and the writer has gained in favor, and we believe this operation will be the one of choice after it has once been used and its technic acquired.

Military Surgery of the Eye.

Military surgery of the eye has of course been one of the important topics in ophthalmic literature during the last year, due to the lamentable world war which is now convulsing practically the whole universe. One of the most complete clinical reports published during the last year was the one by Rollett and Felter, abstracted in

(*Continued on p. 26.*)

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Help to Repeal the Postal Zone Rate on Medical Journals.

During the past year or so the publications of this country have been burdened with an abnormal increase in the cost of paper and labor amounting in the case of the former to considerably over 100 per cent. advance. Now, to add to the troubles of the publisher, Congress at its last session passed a hasty postal law increasing the postage on periodicals from 50 to 900 per cent., to come into effect on July 1, 1918. The present flat rate of postage of one cent a pound has enabled American publishers to make their journals the best in the world. With the tremendous increase called for by the bill, the price of publications must be increased. This increase of subscription price will naturally decrease circulation; decreased circulation means a lower advertising rate, and hence less advertising income. Less advertising income means cheaper paper, cheaper illustrations, lower prices to authors and lower salaries all around. Many periodicals will be killed, all will be restricted in circulation and crippled. There will be fewer readers and the habit of reading curtailed. The great function of periodicals such as THE MEDICAL TIMES is to assist in the spread of scientific ideas—by printing the advances in the world of medicine, surgery, scientific research and other matters of interest to the medical profession.

Under the present regulations, great mailing agencies, like the American News Company, send thousands of packages to local dealers made up of a variety of publications. These packages are mailed at a uniform rate of one cent a pound. The postoffice incurs the minimum of trouble and expense in handling them. Under the new law each package will have to be opened and each individual magazine or newspaper will have to be examined in order to find out what proportion the reading matter bears to the advertising columns, a separate rate will have to be established for each publication, and that rate will vary each day for newspapers, every week for a weekly and every month for a monthly. It is not too much to say that the handling of one package under the new law will require as much time and labor on the part of the postoffice, as the handling of a hundred packages under the old law. No wonder the postmaster says this clause won't work. It would ruin the postoffice, to say nothing of the publisher.

Collier's Weekly, in a recent editorial on the increase in postage, says in part; It is also an attempt to prevent the spread of useful information, to destroy property built up on the good faith of the Government, to kill off scores of educational and scientific publications, and to starve American literature. But on public grounds the greatest objection to it is that it prevents the free circulation of papers which are nonsectional in character and appeal to readers in every part of the country. For a good many years one of the Republican leaders of the Senate who had been pretty vigorously "muck-raked" by the magazines, worked for higher second-class postage rates. His feelings were hurt, and he showed it. But when the zone system was proposed, he spoke and voted against it. When he was asked why he had changed his mind, he said: "I don't like the magazines. They have treated me unfairly. I don't care how much they are hurt. But the longer I live in Washington the more convinced I am that the greatest danger for this country is the revival of sectionalism. It always threatens in a country the size of ours with a mixed population. There is a constant tendency to divide on geographical or racial or religious lines, and it is a tendency that is encouraged by every blatherskite in Congress. I don't want to see the North against the South, the East against the West. I want us to be Americans all, and the feeling has grown since the war broke out, and I have seen a solid nation—Germany—fighting against the world, and a nation whose parts have not been welded together, melting into anarchy, as is the case in Russia. The more I have studied the question in this light the more I look upon the periodical press as a necessity. I know of nothing else that can so well perform the function of interpreting all sections to each other. And I won't support any measure that cripples it."

Every physician should investigate the zone system, note the evils it carries, and then immediately write his senators and congressmen a protest against allowing such a baneful plan to remain in force. It should be remembered that the periodicals and newspapers are not shirking their share of taxation, but there is no good reason why this one industry should be singled out for double taxation.

Deeds, Not Talk.

"The MEDICAL TIMES has published more army news and more exhortations to the medical profession to join the Medical Reserve Corps, U. S. Army, than any of the dozen monthly medical journals I read," says a reader of this journal. "May I ask why the Editor does not practise what he preaches, join the army and do his bit? Is he a cripple or merely one of those shouters who loves to talk, but always lets George do

it when something disagreeable needs to be accomplished?"

Were we living in ordinary times the Editor would write a letter to our caustic critic and be done with the matter, but with conditions as they are such a criticism merits different treatment.

If the Editor of this journal were not a modest and diffident man, he would devote some space to a recital of his military status for the benefit of his inquiring friend, who, upon investigation, turns out to be a practitioner physically and financially able to go into the army and do his share. He has not done so, however, and seemingly has no present intention of so doing.

For his benefit the Editor will say that for the past eighteen months he has been serving the Government as an officer of the active Medical Reserve Corps, in a position which is recognized by the Surgeon General's office as being of some responsibility. In addition he has probably written more matter on the Army Medical Corps and its activities than any one man in the medical profession outside the regular army and more than half of every twenty-four hours are spent in Uncle Sam's service. Aside from that the Editor has naught to say, except that he daily thanks God he is not a slacker.

This unpleasant criticism, coming as it does from a man who has yet to do anything to serve his country, except to pick up the practice which his patriotic neighbors have laid down, leads to a few observations on what the medical journals of the country have done for the Surgeon Generals of the Army and Navy in filling up the medical personnel.

Pages and pages of editorial matter have been devoted to the subject, application blanks have been reproduced and in every way possible publicity of the most practical nature has been employed to aid General Gorgas and Admiral Braisted in securing a competent staff of medical men.

We believe the success which has attended the activities of the medical staffs of these two great services has been due in considerable measure to the splendid efforts of the medical press.

Still more medical officers will be needed and applications must be received by the Army and Navy from competent physicians. To aid in this cause the MEDICAL TIMES will continue to publish "more Army news and more exhortations to the medical profession" in the hope that our captious critic may yet see the error of his ways, repent and apply for a commission. These exhortations will also serve as reminders for the benefit of the thousands of patriotic practitioners, not yet in khaki for good and sufficient reason, but who intend to come forward at the proper time. It is up to all medical men to do their bit, some in uniform and some in mufti, but all in a common cause.

Nutrition and the War.

With the cessation of immigration and the withdrawal of a million or more of our best men, physically speaking, from our productive life, and with the cost of living where it is, the nutritional needs of the nation, particularly the needs of the younger generation, are giving serious concern to the medical profession.

A degree of malnutrition, not to say starvation, for certain elements of the population, seems inevitable when one considers the War Department estimate that 38,000,000 men are under arms in the various armies of the world, which is only 167,000 less than the last census showed to be the number of men, women and children engaged in gainful occupations in the United States. The world of labor is so affected that such palliatives as the increased utilization of the labor of women will not make up deficiencies. And we have to feed a large proportion of the armies and peoples of our military associates as well as ourselves.

The more one studies the political history of the race the more does one realize that very desirable rearrangements have been brought about by hunger—witness the French Revolution and the recent revolution of the Russians in its early stage. The more the nutrition of some peoples is jeopardized, the more likely are they to institute reforms and to throw off the slavery that Professor James Harvey Robinson of Columbia University thinks men prone to accept under ordinary circumstances. A little hunger in our own case may aid a bit in quickening us to the perception of the new governmental truths and democratic principles that President Wilson is formulating and applying.

We have noted in institutional and collegiate life in our own country and in the case of the Italian Army abroad a tendency of late which we venture to term caloric camouflage. Patients, public charges, students and foreign soldiers are often fed curious and unappetizing messes which, dietetically, are calorically balanced and nutritionally adequate in theory, but woefully unsatisfying to red-blooded human beings in fact. This results in disturbance of the general health and muscular and cardiac weakness. The vitamins are especially deficient in dried foods and foods that require cooking at high temperatures.

As an example, who would want to live upon the following ration, supplied to its workers by an agricultural concern:

Rice	600 grammes
Dried beans	150 grammes
Dried bread	360 grammes
Palm oil	40 c. c.

The above ration provides over 4,000 calories, contains 110 grammes of protein, and is sufficient in mineral salts, but it is an excellent example of caloric camouflage.

The nutritional situation in general appears to be an inevitable outcome developed by war conditions. Let us take a little further account of possible effects socially and politically.

Science might set itself about discovering exactly at what point among national groups political reactions can be depended upon to ensue upon nutritional deficiencies. We already know that it is a very low point—did not the French peasants subsist for some time upon the bark of trees before they became impatient of the old régime? Much data must be available in present-day Russia. The Russians have really never been politically mysterious and hard to understand; they have merely been hungry.

Relative degrees of national starvation must bear quite definite relationships to such movements as those for governmental control and ownership of public utilities. War is a beneficent thing in that it appears to bring about in a few years that which would otherwise require generations of slow evolution. Thus the British Government has taken over practically complete control of the railroads and shipping, and it is certain that there is a powerful sentiment in favor of its continuance. The prices of practically all essential foods in England are now under Government control, with profits for handling fixed very closely upon a pre-war basis.

The very greed of those classes in Germany which forced hostilities carried in itself the germs of their own ultimate destruction and initiated the birth-stirrings of the democratic social order that is to be, for the starva-

tion that has followed upon the mischievous machinations of those classes is effecting everywhere property transfers to public hands and sounding the doom of privileged administration of national and international affairs, and this intensification of democratic progress is prompting even such radicals as the editor of the Socialist publication, the *Appeal to Reason,* to express conviction that "the cause of fundamental democracy in national and international affairs is boldly championed by the American President."

So in the very malnutrition that the war may entail we shall witness the promise and the insurance of the democracy that is to be.

The Kinetic Drive and Other Things.

Primitive man engaged in struggles for the effective maintenance of which he developed the kinetic system. Today his descendants are adapting this system to the new demands that are being put upon it.

Boas, of Columbia University, has pointed out that modern man is still reacting to certain phases of life in a fashion identical with that of his primitive ancestor. Thus international prejudices are easily paralleled by the primitive man's hatred of the stranger.

Jacques Loeb has formulated a mechanistic conception of life which rules God out of the scheme of things quite completely. He professes to build up a system of ethics upon the basis of this mechanistic conception. It is well that he does this, for without the ethics the system of Loeb would fit in well with the conception of man as in reality a creature of the cave, emotionally, kinetically and otherwise a mere species of the brute creation, Godless, ruthless and frightful under stress, but cunning and clever in that he can camouflage the world and himself into believing at times that his veneer is not veneer.

Upon the battlefields of Europe today men may really be determining whether they are of God or of the primordial slime—whether their origin is divine or "mechanistic." Those who worship racial gods we may for all practical purposes range as mechanists, for a God who is Father of us all would not have any race prejudices. It is true that this reduces the number of divine-origin proponents to a very few, for the masses of men everywhere worship racial gods, Woden in one case, Jehovah in another, etc. It has even been insisted that God is a Presbyterian.

What is the truth? What if there is no God? What if man is but a highly evolved organism knowing no supernatural creator? Is the struggle in Europe for a decision in reality a contest between nature and religious superstition on the one hand, or between *scientific* superstition and truth on the other? Is man a beast or is there something divine in him? Is his natural occupation, after all, fighting his fellow men on the battlefield in time of war and carrying on industrial warfare in time of peace, or is his social destiny higher than that?

If the forces of Kultur triumph either by a Teutonic victory or by a world-wide adoption and organic assimilation of the essential principles of Kultur after the war, then our "civilization" will become an obvious sham. We may be doubtful as to whether our present civilization is anything but a sham, but about the spread of Kultur there could be no doubt whatever.

The triumph of Kultur would prove that, after all, man's evolution has been purely mechanistic—or that it ought to have been. In such a case man should abjure his hypocritical pretensions and glorify himself not as partaking of the divine but as a superb beast, and shape his thoughts and deeds accordingly.

On Certain Despised Sources of Genius.

The genius has been called a lily on a dunghill; that is, he is derived from bad stock. In order to produce one genius there must be thousands of criminals, weaklings and lunatics. Nietzsche considered these thousands of degenerates as merely fertilizer for the genius.

Society thus pays dearly for its geniuses. The cost and care of the unfit are enormous.

The burden of the unfit is, of course, very much worth while, for without genius the world would be meaningless and further progress would halt.

It is a little odd, just the same, why society makes the efforts that it does to care for the unfit, for it has no conscious understanding of them as the source of genius. Whatever it is that accounts for society's efforts it is most fortunate that they are put forth.

How much better it would be if society could be made to understand what the whole thing means; how much this would rationalize society's efforts, and how much it would stimulate them.

Now there are apparently only the sentimental and religious motives where there should be a spiritual one.

Those who have read Samuel Butler's "Erewhon," that remarkable Utopian fantasy to which Bernard Shaw has confessed himself so indebted for ideas, will recall Butler's whimsical description of the Erewhonians as reversing, to advantage, our conventional attitudes toward crime and disease. The Erewhonians were perfectly frank with each other about their moral weaknesses, and employed practitioners called straighteners to treat them for all sorts of lapses, contemplated and real. On the other hand, they prosecuted the sick and suppressed all mention of illness, physicians, of course, being severely dealt with and forming a practically extinct class.

If one could imagine a similar reversal in our attitude toward genius, would we not encounter interesting efforts on the part of our painfully respectable friends to make out a bad instead of a good case for themselves? Now, every possible attempt is in the direction of proving that one is descended from a long line of healthy and reputable citizens. The greatest pride is taken in establishing descent from Deacon White, who landed at Plymouth with the Mayflower band, was a missionary to the Indians, a member for twenty years of the Legislative Assembly, and who died in the odor of sanctity. One is happy if some genealogist proves to him that his great-great-great-great-great-grandmother was the daughter of the Reverend Jan Evertsen Jansen, a Dutch dominie who landed in New Amsterdam with the earliest settlers, and who was quite the most pious cleric that the world ever saw.

Assuming a reversal of the point of view, there would be witnessed frantic attempts to connect one's self with the recorded criminals, dependents and sickly. Great pride would be taken in one's collateral descent from the tuberculous stock of Keats. Dick Turpin's line would be sedulously traced out by the professional genealogists and our most eminent citizens connected therewith. Those descended from New York Colonial stock would exhibit with delight the proofs of their descent from Sir William Johnson and one of his many Indian concubines, and thus put to shame those sorry individuals who should shame-facedly have to confess to a blood link with an old Knickerbocker family. The records of jails, reformatories and poorhouses would be ran-

sacked, and proud boasts founded by our would-be highbrows upon the genealogical results.

The radicals who hate respectability and bourgeois pretensions would be mightily pleased at our fancied reversal, but an unpleasant thought occurs to us. It is altogether probable that under reversed conditions we should find only too often the descendant of a horde of vagabonds, crooks and consumptives hopelessly healthy and mediocre, just as now we find the descendant of good Deacon White anything but wholesome in his offensive international hatreds and bigoted Prussianism, despotically applied in the very name of democracy.

All of which does not alter the soundness of our thesis on the occasional flora of dunghills.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Treason?

Hazlitt, the famous English critic and essayist, became a strange sort of creature after he gave up alcohol. Some discerning writer whose name has slipped our mind just at present has said that Hazlitt was a man who should have continued to drink, judiciously. When he drank he was cheerful and human, got along better with people, and did better work. He had no trouble with his digestion until he became an abstainer, after which he complained constantly.

Hazlitt, of course, had a notion that his gastric and other troubles were a consequence of his early "indiscretions."

Imagine what sort of a man he must have been who quarrelled with the gentle Charles Lamb. Hazlitt did that.

Francis Grierson, writing of Emerson, likens his writings to a plot of ground sown with lilies and other white flowers, without perfume. "A few of Omar's perennial roses, and a little of his wine, would have given color and fragrance to the garden and some passion to his prose," for "pure wine sharpens the wit and gives power to the wings of genius."

It is not improbable that there are individuals—rare as hen's teeth, of course—who ought to be exempt from the rigors of abstinence, who indeed ought to be *compelled* to drink a little.

If this be treason——

Some Plain Words.

The rich and neurotic elements in the population have played the devil with the profession's weaker but ambitious members. By ambitious we of course mean in this connection avaricious of material wealth and all that goes with it. In the mad struggle for this kind of "supremacy" this class of practitioners violate all but the most superficial principles of ethics. What is especially curious about all this is the fact that it is a matter of give and take. There is no compunction and little or no ceremony as the competitors supplant one another in attendance upon the rich fools who employ them.

One man sees a child in the morning who is apparently slightly ill. In the afternoon the child is worse. Instead of sending for the first attendant again the rich clothier and his family, ill-bred and panicky besides, call in another "professor," who diagnoses pneumonia. He of course takes the case. But in about forty-eight hours the child develops a pain in the region of the left kidney, and a kidney expert is asked for. Perhaps this time the kidney expert meets the "professor," and the usual silly pow-wow takes place. Later the family are persuaded by relatives or friends who have some financial control over them to send for some marvellous physician, who in turn appears upon the scene.

Very often these changes take place with ridiculous rapidity. The rich money lender is seized with appendicitis and calls in a physician. He makes a diagnosis and is immediately supplanted by a "professor." Operation is refused unless a certain other *notorious* surgeon is consulted. The notorious one arrives. Of course in the end somebody has to open the money lender's belly, and whoever that is sends in a crushing bill.

This sort of thing has developed a system which is really deplorable. The rich neurotics are little more than prey. The class of practitioners to whom we have alluded go about seeking whom they may devour. When first on the case they expect to lose out to somebody else, just as they will supplant the supplanter tomorrow on some other case.

It is easy to guess how much genuine interest is taken, in these circumstances, in the sick ones.

It is also easy to imagine the effect of this sort of thing upon the "professors" and the rest of the gentry who figure in the game.

While the whole matter passes before us largely in the light of a money scramble, there is another side. The demoralization of that element in the profession which is engaged in this unworthy competition is due in part to neurotic contagion, so to speak. Hardly anyone could be intimately associated with the neurotic rich in the manner described, year after year, and not be injured.

Thus this class of practitioners suffer from a neurosis which must be taken into account in considering their loss of professional tone.

Perhaps the winning of wealth reconciles our degenerate brethren to their unfortunate plight.

It is a hopeful fact that the war has chastened the souls of some of the worst offenders, and they are now better employed. This result may be counted among one of the beneficent effects of war.

(Continued from p. 22.)

the *British Journal of Ophthalmology,* Feb., 1917. These observers have seen 237 traumatic cataracts among 24,990 eye patients, 123 of the 237 were operated upon. The traumatic cataracts are to be divided into two groups: (1) those without wound of the eyeball, (2) those in which the eye-ball is wounded. Of contusion cataracts there were 40 out of the 237 cases. As a rule the authors are of the opinion that no operation is preferable to intervention. In the later article these same authors publish an excellent resume on "The Factors in a Decision For or Against Operation in Military Traumatic Cataract." The authors state that they had forty contusion cataracts to treat and operation on fourteen, the remaining 26 were not operated on either because the cataract was accompanied by other severe ocular lesions or was only partial. One hundred and sixty-six cases of cataract with wound of the eye were dealt with. Of these 89 patients were submitted to operation with following results: Vision 1/4 and better 12 cases, vision 1/4 to 1/20 thirty-six cases, vision 1/20 to 1/50, 18 cases, vision less than 1/50 twenty-three cases. No cases of post operation infection were observed.

One of the remarkable observations made during this war and among such a variety of injuries to the eye in all its forms has been the absence of sympathetic oph-

thalmia. Various writers have called attention to this fact. Jessup and Evans in a very extensive report of their experiences have not encountered such cases. Ormond relates one case of sympathetic ophthalmia which rapidly cleared up on the removal of the offending eye. De Lapersonne is agreed that grave sympathetic trouble is rare, but described an insidious form which comes on very gradually, leading to grave consequences.

It is remarkable how so many observers have reported the relationship of a papilledema with slight injuries to the head. Lester found this in 50% of bullet wounds of the head, even in grazing wounds of the skull there was papilledema.

War Activities

Reconstruction of Disabled Soldiers.

Surgeon General Gorgas announces that a "large receiving hospital for United States soldiers who are disabled in Europe" will be erected at Fox Hills, Staten Island, New York harbor. Construction will begin at once. The hospital will have a capacity of from 1,500 to 2,500 beds. Proximity to "Quarantine," in New York harbor, where all incoming ships are forced to stop for inspection, was the feature which led to the selection of the Fox Hills site. This will enable the attendants to remove the wounded men quickly and to transport them with a minimum of discomfort to the hospital, which will be 1,000 yards from the Quarantine wharf. General Gorgas, in an interview, said:

"The establishment of the receiving hospital marks the beginning of a comprehensive plan that is being worked out for the reconstruction and rehabilitation of our soldiers who are disabled in the line of duty. The Staten Island hospital will be used only for purposes of distribution. As the men are received there, they will undergo thorough physical and mental examinations by medical officers, a complete history will be made of each case, and requirements of the individual cases studied. Then, as soon as this is completed, the men will be transferred to a general or special treatment hospital. Here they will be treated by specialists for their particular disability.

"During his stay in the hospital, the soldier will be given light work which will aid in his convalescence, and where necessary because of his disability, he will be given special training for new occupations under the direction of vocational experts. He will be fitted for a trade for which he is peculiarly adapted; and at the time of his discharge, it will be the duty of the Government to assist him in returning to his proper place in industry, and of various civil organizations further to supervise him until he has been completely rehabilitated —that is, placed once more on a firm economic foundation in society.

"The general and special hospitals are now being selected in various parts of the United States. So far as possible the soldiers will be sent to places near their own homes. As the additional sites are decided upon, they will be announced by the Surgeon General."

Army medical officers have been visiting towns along the Atlantic coast for the purpose of locating suitable buildings for use by the Government as reconstruction hospitals. Efforts will be made to secure suitable structures in every state in order that the patients may be sent as near their homes as possible.

Col. James D. Glennon of the Division of Hospitals, in the office of the Surgeon General, has charge of this quest.

The Bureau of Medicine and Surgery, U. S. N., has completed plans looking to the establishment of two base hospitals, each to comprise at least 500 beds. The construction of these hospitals will be pushed as soon as their location has been decided upon so that they may be ready in case of an emergency.

The Army Nurse Corps will enroll five hundred more nurses and the Surgeon General's Office is asking nurses' training schools for this number. At each National Guard and National Army cantonment a hospital of 1,000 beds has been established and each of these requires sixty-five graduate nurses as part of the trained personnel.

A Plan to Aid Patriot Physicians Who Go to the Front.

A special committee appointed by President R. K. Updegraff of the Cleveland Academy of Medicine, to deal with the problems of conserving the practice of Cuyahoga County physicians who enter active military service has worked out a plan by which these patriotic physicians may receive forty per cent of fees collected from their patients by their colleagues at home.

The committee placed the question of dividing such fees entirely up to the stay-at-home physicians, and the success of the plan will depend solely upon the honor and personal integrity of the men who remain behind.

In the first place a neat office poster, suitable for hanging in the waiting room, and bearing the flag in colors has been mailed to each of the 1,300 physicians in the county. This poster bears the following inscription:

"Many physicians from Cuyahoga County have gone to the front in the service of our country. If you are a patient of any of these, kindly inform the physician whom you are now about to consult of this fact, as 40 per cent of your fee goes to your own physician or his family."

It is pleasant to note that this card may be seen, prominently displayed, in a large majority of the waiting rooms in Cleveland.

To supplement this work the committee has had prepared in blank a large number of printed letters of which the following is a copy:

"I have entered the government service and have had to give up my practice for the present. The majority of the medical profession of Cuyahoga County believe that it is only fair that while I am in the government service, some part of the income from my practice shall go to those who are dependent on me for support. They have agreed that 40 per cent of the fees which they collect from the practice of absent physicians shall be paid to their dependents.

"You have favored me in the past by employing me; you can still favor me and make it easier for me to be away if, when in need, you will call a physician who has agreed to the above plan. You will know him by the card displayed in his office indicating this agreement. When you employ him please inform him that you consider yourself one of my patients and he will do the rest.

"Without such an agreement many doctors could

not enter the government service. You can help them by following these suggestions.

"Thanking you in advance for your kindness, I am, sincerely yours,"

These are furnished to physicians who have entered service, with a suggestion that they be forwarded to such families as may be classed regularly as patients.

It is hoped to make the general plan effective by this means, and by use of general publicity to thoroughly advise the general public of the plan. If the co-operation of the public is secured it will mean its success.

* * *

A more tangible feature of the committee's work is the incorporation of the Medical Association under the laws of Ohio. This association through its board of trustees is now engaged in raising a general relief fund. All physicians remaining at home are requested to subscribe monthly sums ranging from $2.00 to $10.00.

This fund will be used in various ways to afford relief to the dependents of Cuyahoga County physicians who have gone to the front. The board of trustees is authorized to collect and distribute the money in such manner as its members see fit. In many instances the capital so raised will be loaned to physicians in service without interest, to meet obligations such as life-insurance premiums, mortgage payments, etc.

In Cincinnati they are preparing to adopt the Cleveland plan through which patriot physicians will receive forty per cent of the fees collected from their patients.—(*Ohio State Jour Med.*, Nov., 1917.)

The Control of Venereal Disease.

The Secretary of War sent this letter to all department, National Guard and National Army division commanders, and says, in part: "No men suffering from acute venereal diseases will be permitted to accompany their organizations for service abroad. In order, therefore, to maintain your organization at proper strength every effort must be made by you and your subordinates to keep down the number of new venereal disease infections. At the present time the venereal diseases are being reported from the National Guard camps at the rate of 135 per 1,000, and in the National Army at the rate of 139 per 1,000. This is a rate twice as high as has been obtained under strict discipline in the past."

Instructions are given as to the proper steps to be taken as a defense against venereal diseases, and in conclusion the letter says: "Upon the receipt of orders to proceed abroad a complete and careful venereal inspection of the entire command should be ordered. All cases of acute venereal disease should be left behind. In addition no leaves of absence to enlisted men, except under very exceptional circumstances, should be granted for a period of ten days prior to entraining, and this quarantine should not be broken while awaiting embarkation. From the date of receipt of orders to proceed abroad, venereal inspection will be held twice each week, until the command is reported for duty with American Expeditionary Forces. Active treatment must be given to all cases discovered enroute. This is believed to be necessary in order to prevent new infections and the development of acute disease enroute."

With the excellent system for early treatment, or as it is better known "venereal prophylaxis," instituted by the Surgeon General at every army camp, the venereal rate should be reduced to a minimum.

The Physician's Library

A Clinical Treatise on Diseases of the Heart. By Edward E. Cornwall, Ph. B., M. D.; 127 pages, including index. The Rebman Co.: New York, 1917.

This little book was written "for the general practitioner," and we are persuaded by a careful perusal of its very readable pages that he will find it perfestly adapted to his needs.

Part I, on Clinical Diagnostics of Diseases of the Heart, is subdivided into General Diagnostics and Special Diagnostics, and Part II, on Practical Therapeutics of Diseases of the Heart, is again subdivided into General Therapeutics and Special Therapeutics.

The author's method of *feel percussion* constitutes a useful addition to our methods of delimiting the right and left borders of the area of covered cardiac dulness.

The general practitioner would do well to bear in mind the contraindications to digitalis carefully rehearsed by Cornwall, and to consider the many points which favor strophanthus in certain cardiac circumstances. The author emphasizes the remarkably small dosage which suffices to secure all desired effects from strophanthus.

Cornwall's experience with strychnine has not included any observation of cumulative effects, but on the contrary he has found increasing dosage to produce a limited degree of tolerance. The author confirms the life-prolonging property of morphine in certain hopeless conditions.

The half dozen pages on cardiovascular disease are a masterpiece of insight and exposition. Dealing with it as a clinical entity, he shows that its prophylaxis is a medical problem of the first magnitude, and that after the disease has manifested itself its treatment becomes merely that of chronic myocardial degeneration, arteriosclerosis and chronic nephritis. A happy generalization is the statement that "cardiovascular disease occupies relatively as important a place in the morbidity of the latter half of life as diseases of bacterial origin do in the first half."

The author promulgates the doctrine of the easy diet, which he regulates with the object in view of reducing to a minimum the amount of work which the organism has to do in feeding itself and fueling itself, and clearing off the table and clearing out the furnace. "The easy diet means not only quantitative regulation of the diet, but qualitative regulation also," and explicit directions are given covering this method of easing the undue strain which has come about in the course of our civilization more rapidly than man's organism has been able to meet with suitable adjustments.

This book strongly impresses one as the work of a practised clinician with a special gift for conveying what he has learned himself to his fellow practitioners in such form that its application at the bedside follows naturally and profitably.

A. C. J.

Practical Treatment. Edited by John H. Musser, Jr., M.D. and Thomas C. Kelly, M. D., of the University of Pennsylvania. Vol. 10. Philadelphia and London: W. B. Saunders Co., 1917.

This volume brings its trio of predecessors up to date and presents a veritable feast of good things from the pens of 76 medical men, including some of the most eminent in the country. Among the subjects considered are infections, parasitic, circulatory, constitutional, respiratory, digestive, urinary and nervous diseases, while many other conditions are treated independently. All new methods of treatment are presented and the science and practice of medicine is splendily portrayed. The volume is a most notable addition to medical literature.

The Prescription. By Otto A. Wall, M. D., of the St. Louis College of Pharmacy, 4th edition. $2.50. St. Louis: C. V. Mosby Co., 1917.

This book sets forth in detail what many physicians do not know—how to properly write a prescription. It contains a vast amount of useful information in this connection and is well worth the perusal of practitioners. As a reference book it has a place in every library.

Diseases of the Skin. By Richard L. Sutton, M. D. of the University of Kansas, 2nd edition. $6.50. St. Louis: C. V. Mosby Co., 1917.

Not long ago we reviewed the first edition of this book. Its favorable reception has warranted a reprinting, with many additions and the use of many new illustrations, all of which add to the general excellence of an unusually valuable work.

Sutton has covered the subject as thoroughly as the skin covers the body and not a point has been too small to be neglected. The book is decidedly for practitioners and it thus

removes it from that class which make their appeal particularly to the specialist.

The illustrations are of a high grade and add materially to the text.

Neurosyphilis. By E. E. Southard, M. D. and H. C. Solomon, M. D., of Harvard Medical School. 495 pages. Boston: W. M. Leonard, 1917.

The rich fields of two great psychopathic hospitals have been seached for the material set forth graphically and lucidly in this book. More than 2,000 cases of syphilis of the nervous system, including over 100 autopsies, have been studied to give authority to the subject matter. It sets forth diagnosis, with its puzzles and errors, and the treatment of the condition. The authors express the belief that treatment should be instituted in both the diffuse nonparetic forms of neurosyphilis as well as in the early paretic forms. Considerable space is devoted to a consideration of neurosyphilis and the war.

A marked feature of the book is that the reader does not get a "text-book view" of the subject, but a broad presentation of every feature.

Pediatrics. By Rowland G. Freeman, M. D., of New York University. $2.00. New York: The Macmillan Co., 1917.

The author lays emphasis on a fact, all too little recognized, that as children differ so radically from adults anatomically, physiologically and pathologically, the diagnosis and treatment of diseases of children are necessarily different. Consequently he sticks to children and unlike many pediatrical writers forgets the grown up.

The book is rich in practical points and is one of those "worth whiles" which the general man should read.

General Principles of Therapeutics. By Francis H. McCrudden, M. D., Director of Laboratories, Robert B. Brigham Hospital, Boston. Price $1.50. Boston: Gregory, 126 Massachusetts Avenue, 1917.

This is a useful monograph, briefly discussing treatment of diseases of the heart, kidneys, vessels, respiratory organs, gastro-intestinal tract, general metabolism and chronic and specific infectious diseases.

The book has its place as a factor in therapeutic teaching.

This gives an excellent idea of the splendid work the Public Health Service is doing in preventive medicine and hygiene for this country.

The Surgical Clinics of Chicago, Volume I Number V (October, 1917). 214 pages, 84 illustrations. Philadelphia and London: W. B. Saunders Company, 1917.

Another interesting compilation of surgical pictures from the clinics of sixteen well known Chicago surgeons.

The First Free Medical Clinic Devoted to Defective Speech and Voice Conditions.

In view of the fact that there are a great number of people who are troubled from some form of speech or voice disorder and that a great many American soldiers and sailors are likely to return from the front with their powers of speech impaired either as the result of wounds or of shell-shock the various branches of medicine bearing on the treatment and cure of speech defects have been coordinated in a new clinic.

The New York Clinic for Speech Defects is located at 143 East 37th street. It is composed of a number of departments: A medical to take care of the physical condition of the applicants, a dental to take care of teeth, mouth and jaw conditions when such conditions are the causative factors of defective speech, a nervous and mental to take care of such conditions when they are causative or associated with defective speech, a re-educational to re-educate patients to overcome their faulty voice or speech habits. A department for teaching of lip reading to deaf soldiers and sailors, as well as lay people will also be one of the features.

At this clinic too, practically for the first time in America special provisions will be made to cure foreigners of their accent by treating the accent as a defect of speech. Inasmuch as correct speech in any tongue is unobtainable without thorough knowledge of the fundamental sounds which make up the words of the language, a special department of the clinic will offer foreigners a course of instruction in the fundamental sounds of the English language, so that before learning to express themselves they will have first mastered the basic sounds correctly. By doing so the foreigner will speak English as English should be spoken, and not with a French, Yiddish or Italian accent.

Among the prominent physicians interested are Drs. Abraham Jacobi, John E. MacKenty, Philip D. Kerrison, George M. Parker, Herbert L. Wheeler, I. Seth Hirsch, Alexander Duane, James Sonnett Greene and Professor John Dutton Wright. The treatment is given absolutely free of charge.

The clinic is open afternoons from 4 to 6 o'clock; Monday, Wednesday and Friday evenings from 8 to 10 o'clock. The clinic is now open to the public.

War Prices Depriving Babies of Milk.

Decreases reported from New York and Chicago and New England cities in the amount of milk now being consumed by families with young children have led the Federal Children's Bureau to emphasize its imperative necessity in the diet of babies and young children.

Dr. Grace L. Meigs, the director of the Bureau's Child Hygiene Division, in commenting on the danger of such a decrease to the health of children today, said, "Milk is the one food that all young children must have if they are to be strong and healthy. Whole milk is rich in the elements without which the child's growth ceases and his health is impaired; indeed there is no food which can supply as well the needs of the growing child.

"There is no substitute for milk in the diet of babies and young children. Yet the increase in its price is so startling that, as the reports the bureau receives show, many mothers are economizing on milk. Young children can not get the nourishment they require from the would-be milk substitutes given them. Patent foods which do not themselves contain milk and are not intended to be mixed with milk are so lacking in the essentials of healthy development that we must expect children fed on them instead of on milk to be weakly and ailing. Plainly very great harm is done young children by giving them tea and coffee to take the place of milk which is really a complete food; it is giving them mere stimulants to replace their best food."

Since the price of milk went up to 14 cents a quart, tea and coffee have been substituted for milk by more than half of the 2,200 families—all with children under six—included in the study of the effect of the increased price of milk just made in New York City by the Mayor's Committee on Milk, the City Department of Health and the Association for Improving the Condition of the Poor. One hundred and twenty families have stopped taking milk entirely, in 25 of these there are babies under one year old. All the 2,200 families have young children, but nearly half are taking from one-fourth to one-half less milk than before the price went up. Yet even before the larger price decreased the amount of milk they bought these families were getting but little more than half the amount of milk which experts on children's diets say they need.

In Chicago as well as New York the rise in the price of milk has forced down the amount purchased. A dealer there reports that while he distributed on an average 4,000 quarts of milk a day in September, on October 3 with the price increased, he distributed only 2,500 quarts.

In New Haven, Bridgeport and other Connecticut towns milk delivered at the station is sold wholesale at 8 cents a quart. It retails as high as 15 cents a quart. In Waterbury, when the price was raised from 12 to 15 cents a quart the sale was so greatly reduced that the price has been dropped back to 14 cents.

The Rational Treatment of Rectal Disorders.

A good deal of difficulty has always been met in devising or procuring a convenient local remedy for rectal disorders, which would be at the same time efficient, non-irritating and cleanly. Those which were efficient were apt to be irritating, and those which did not irritate were almost invariably of little or no use.

Medeol Suppositories reach the happy medium. They are not only effective, but never give rise to disagreeable results. They possess antiseptic, mildly astringent, and markedly potent anodyne properties. Their styptic action in the case of bleeding hemorrhoids is prompt and satisfactory. They relieve quickly and effectually the pain and soreness which accompany hemorrhoids, and in many instances obviate the necessity for operative measures.

Although Medeol Suppositories are especially indicated in the treatment of hemorrhoids, their range of therapeutic usefulness is wide, and they can be relied upon to exert a beneficial action on chronic proctitis, pruritus ani and vulvae, vaginitis, hypertrophy of the prostate, and ulceration of the rectum.

Medeol Suppositories do not contain any narcotic drugs. Notwithstanding the effect of the war on many drug importations from Germany, it is satisfactory to know that there will be no shortage of Medeol Suppositories. The supply is ample to meet all demands. For samples address Medeol Co., Inc., 802 Lexington Ave., New York.

Cold-pack Canning and Botulism.

The United States Department of Agriculture authorizes the following statement:

Botulism, often called sausage poisoning, is a specific intoxication brought about by *Bacillus botulinus*, an organism isolated by Van Ermengen from insufficiently cooked sausages which had caused a severe outbreak of food poisoning in Belgium in 1895. The symptoms (nausea, gastric pains, visual disturbances, muscular weakness, etc.) are caused by a definite toxin or poison produced by the *Bacillus botulinus* outside of the body.

The *Bacillus botulinus* is an anaerobic organism—that is, it grows in the absence of air. It grows readily at 20 to 25 degrees centigrade, but only sparingly at 37 degrees centigrade, the temperature of the body, and there is no conclusive evidence that it produces its toxin to any extent in the digestive tract of animals. *Bacillus botulinus* does grow readily and produces its toxin in protein foods such as meat or fish products. Some investigators state that it also produces its toxin readily in protein-containing vegetables like peas, beans and corn. When growing in these foods, the organism produces a very powerful poison which produces the symptoms mentioned above, or even death, when eaten in extremely small amounts. Fortunately, cases of botulism are not common in this country.

The *Bacillus botulinus* is a spore-forming organism, but both the organism and its spores are not very resistant to heat, the spores being killed by heating to 80 degrees centigrade for one hour. The toxin which the organism produces is also destroyed by boiling. Thorough cooking at the boiling temperature is therefore all that is necessary to kill the organisms and destroy its toxin in the food, and cases of botulism are due to the eating of food which has been infected with the organism and not been sufficiently cooked. Sausages, which might become infected with this organism, present ideal conditions for its growth, and have been a frequent cause of botulism. From this fact the name of the disease is derived. Infected meat products and, in a few instances, canned vegetables and fruits have been given as causes of botulism.

Recently Dr. Dickson of San Francisco has reported[1] a study of eleven outbreaks of food poisoning, occurring during the past eighteen years in California, which he attributes to eating canned vegetables and fruits. In these cases no definite information is available as to the methods used in canning the vegetables, but it is reasonable to assume that the contamination of the goods might have been brought about by the selection of food of poor quality for canning, by lack of cleanliness in packing the products, by the neglect of some essential steps in the process, or by failure of the heat to penetrate to all parts of the can in sterilization.

There is no danger that the type of food poisoning known as "botulism" will result from eating fruits or vegetables which have been canned by any of the methods recommended by the United States Department of Agriculture, providing that such directions have been followed carefully, and that no canned goods are eaten which show signs of spoilage. In case of any doubt as to whether the contents of a particular can have spoiled it should be thrown away. If fed to chickens or other animals it should be boiled. No canned food of any kind which shows any signs of spoilage should ever be eaten. In the cold-pack method of canning given out by the Department of Agriculture, only fresh vegetables are recommended for canning, and sterilization is accomplished by the following processes: Cleansing, blanching, cold-dipping, packing in clean, hot jars, adding boiling water, sealing immediately, and then sterilizing the sealed jars at a minimum temperature of 212 degrees Fahrenheit for one to four hours, according to the character of the material. Since the spores of *Bacillus botulinus* are killed by heating for one hour at 175 degrees Fahrenheit[2] there is no reason to believe that the *botulinus* organism will survive such treatment.

The *Bacillus botulinus* has been found in the digestive tracts of some animals, especially the pig and the fowl, probably occurring there in the same manner as does the organism of tetanus (lockjaw) in the intestinal tract of the horse. It is not a parasite in the ordinary sense, but rather a saprophyte. From these sources it may be deposited on the soil, although attempts at isolating it from the soil have generally given negative results.

The primary and secondary symptoms of syphilis, in comparison with the later manifestations, are relatively benign.

[1] *J. A. M. A.*, v. 69 (1917), No. 12, pp. 966-968.
[2] Rosenau, M. J., Preventive Medicine and Hygiene, 1917, 2, ed., p. 627; Jordan, E. O., A Text-Book of General Bacteriology, 1916, 5, ed., p. 356; Park, W. H., and Williams, Anna W., Pathogenic Microorganisms, 1917, 6, ed., p. 449.

"Over the Top," 44th Street Theatre Roof Theatre Revue, Big Success.

"Over the Top," the big Messrs. Shubert musical revue with T. Roy Barnes, Justine Johnstone and Craig Campbell at the new Roof Theatre on the roof of the 44th Street Theatre, went "over the top" with a bang. First nighters are still talking about the wonderful personality and pretty voice of Justine Johnstone, the hostess of the Little Club, which bears her name, and the most talked of young lady in New York. The book was written by Philip Bartholomae and Sigmund Romberg. It was staged by J. C. Huffman, and the dances were arranged by Allen K. Foster.

In two acts and fourteen scenes "Over the Top" provides an entirely new form of entertainment, novel and unique in its many settings. Gorgeous scenery and costumes, scores of pretty and entrancing girlies, and an array of musical comedy and vaudeville stars are features of this newest musical play. Miss Johnstone's first appearance as a principal in a musical comedy has been greeted with bursts of applause. She not only surprised the critics, but the producers as well, who, although they knew she would win instant favor, were unprepared for the wonderful showing she has made. In appearance and acting Miss Johnstone is destined to be a star at an early date.

Among the other clever entertainers are T. Roy Barnes, Craig Campbell, Joe Laurie and Aleen Bronson, Fred and Adele Astaire, Vivian and Dagmar Oakland, Ted Lorraine, Harry and Emma Sharrock, Betty Pierce, Ma-Belle and Mary Eaton and Rolanda's Neo-Classical Dancers.

Matinees will be given on Saturday only.

Silvol: A Useful Germicide.

The signal property of Silvol is its germicidal and non-irritating effect on inflamed and infected mucous membranes. This notable proteid-silver compound contains approximately 20 per cent. of metallic silver. It is non-toxic. It is freely soluble in water, and its solutions do not require filtration. It does not coagulate albumin, and it is not precipitated by proteids or alkalies. It stains less than other proteid-silver combinations.

Silvol may be used in the treatment of infected and inflamed mucous membranes in strengths ranging from 2 to 50 per cent. It has been suggested that the addition of a small proportion of glycerin to Silvol solutions will prevent them from spreading too freely over the surfaces to which they are applied; that the glycerinized solution forms a thin film over the surface that does not immediately dry off. In other words the glycerin "holds" the Silvol to the spot.

Silvol has been successfully used in the treatment of nasal and pharyngeal inflammations, both acute and chronic. One practitioner reports his experience with a 20 per cent. solution of Silvol in over five hundred cases of various nasal, laryngeal and ear diseases. The solution was used either as a spray, instillation, or topical application.

An eastern specialist reports gratifying success with Silvol in the treatment of twenty-five cases of antral infection. The treatment consisted in first irrigating the sinus with normal salt solution, then injecting it as nearly full as possible with a 10 per cent. solution of Silvol, repeating daily. Usually the cases cleared up in less than a week, often within three or four days. Another writer observed most striking results in tracheitis and bronchial asthma. In these cases a 10 per cent. solution was applied twice a week.

A prominent urologist reports the successful use of Silvol in one hundred cases of posterior urethritis, gonorrheal in origin. A 10 per cent. solution was applied, once a day, to the posterior urethra with an Ultzmann syringe, and each patient received a supply of the same solution for home use, to be applied two or three times a day.

Results from the use of Silvol in the treatment of eye diseases are highly favorable. A well known ophthalmologist says: "My clinical observations of Silvol evidenced to me that in all forms of acute conjunctivitis, acute spidemic to acute gonorrheal, this product is a powerful bactericide, apparently absolutely non-irritating; even in a solution of 50 per cent. used as frequently as every fifteen minutes, day and night, for a period of three days."

An experienced surgeon makes the assertion that Silvol is a better application in ophthalmia of the new-born than silver-nitrate. It can be used with less risk and the writer thinks he can control any case with it.

Silvol is supplied in the following forms: Ounce bottles; six-grain capsules, bottles of fifty; Vaginal Suppositories of Silvol, 5 per cent., boxes of one dozen; Silvol Ointment, 5 per cent., collapsible long-nozzled tubes, two sizes; Silvol Bougies, 5 per cent., boxes of 25 and 100.

Model of Hospital Ward on View.

The model of the portable and convertible Liberty Field Hospital Ward, designed for the American Museum of Natural History by Superintendent of Construction H. F. Beers of that institution under the direction of Dr. Henry Fairfield Osborn of its Board of Trustees, has been placed on public view on the first floor of the Museum.

This hospital ward, which is constructed in five-foot units, represents the latest hygienic and scientific principles of hospital construction, and can be quickly erected or removed from place to place as necessity demands. Sliding panels separate the building into wards, kitchens and nurses' apartments. The material is cedar.

An interesting phase of the construction of this model is the ability to convert it into a dwelling for the refugees in France and Belgium after the war.

Because of its unique features, as well as of its constructive ingenuity, the model is attracting much attention in hospital and building circles.

Prophylactic Inoculation Against Bacillary Dysentery.

The undoubted success of prophylactic inoculation against infection by bacteria of the typhoid-paratyphoid group has led to trial of similar methods of protection during epidemics of other bacterial infections. One of the recognized scourges of armies in the field is the group of diseases which have been designated since the time of Hippocrates by the term "dysentery." Comparatively recent research has shown that in truth dysentery comprises a series of infections of the intestinal tract by pathogenic bacteria and protozoa. The bacilli of Shiga and of Flexner are now universally recognized as causative agents of dysentery. Evidence has been brought forward during the present war to show that other bacteria, formerly associated with disturbances of the intestinal tract such as summer diarrhœa, may be the causative agent of epidemics of what are clinically cases of dysentery.

Further observations on this point are very desirable, for protective inoculation against a *group* of diseases (which dysentery really is) cannot prove wholly effective unless the body is protected against invasion by all the bacteria which may cause the diseases. For the time being, however, and in the light of our present knowledge, we may reasonably hope to be able to protect against infection due to the two well-recognized causes of bacillary dysentery by the employment of an efficient mixed vaccine of the dysentery bacilli of Shiga and Flexner. Until recently the employment of such vaccines was impossible owing to the severe reaction produced by their inoculation. Various methods have been tried with a view to diminishing this reaction, but none of them have proved sufficiently reliable to warrant the wholesale inoculation of troops or sections of the community.

An article by Captain H. Graeme Gibson, R. A. M. C., in the June number of the *Journal of the Royal Army Medical Corps*, deals at length with this very important subject. The author has been at pains to test the efficacy of various advocated methods, and has sought to perfect a method of his own. The method suggested by Professor H. R. Dean, of neutralising the toxins by means of eusol was shown to have inconvenient limitations in practice, for the vaccine so prepared became toxic on keeping, no doubt due to the breaking down of the bacilli. Sensitized vaccines and the method of administering the vaccine in conjunction with anti-dysenteric serum, as recommended by the Tokio Institute in Japan, also proved disappointing, not by reason of the reactions produced, but rather because of defective power to stimulate the elaboration of protecive substances. Captain Gibson conceived the idea that this drawback was due to the bacteria being rendered inert as antigens by the antibacterial substances of the sera employed. To overcome the difficulty he absorbed these substances from the serum, and after having satisfied himself that the removal of the antibacterial substances from the serum did not interfere with its antitoxic action he administered the vaccine with this absorbed serum. Inoculations into rabbits and later into himself showed that the vaccines so treated led to very little reaction, either local or general, and laboratory tests demonstrated that the inoculations led to the development of protective substances in the blood. A number of men were then inoculated at Aldershot and it was found that the serum-treated vaccine prepared by Captain Gibson's method did not produce excessive reactions. The protective inoculation against bacillary dysentery may be said to have been rendered practical by these researches, and the results of trial in the field, which is now taking place, will be awaited with interest.—(*Lancet*, July 28, 1917.)

Prodromal Symptoms of Infantile Paralysis.

Wilson discusses the prominent prodromal symptoms under the following headings: fever; gastro-intestinal symptoms; respiratory symptoms; nervous symptoms; urinary system; skin. *Fever:* Fever was the most common initial symptom, being noted in 334 of the 400 cases. Only 2 per cent. had no history of fever. The fastigium was reached in twenty-four to forty-eight hours. The highest temperature reached was 106°; the average, 103°; the duration of febrile curve was from one to ten days; the average duration was four days; the temperature fell by crisis or lysis. *Gastro-intestinal Symptoms:* Vomiting was noted in 67 cases as the initial symptoms; as an early symptom in 132 cases. Constipation occurred in 156 cases. Diarrhea was not a common symptom, being present in 25 cases. Abdominal pain was an initial symptom in 21 cases; an early symptom in 25. It was usually severe and persisting several days, referred to the epigastrium and in two cases simulated appendicitis.

Respiratory Symptoms: Throat. Sore throat was an initial symptom in 21 cases; reddened in 27 cases; follicular tonsillitis in 14. On being admitted 100 cases showed injected fauces in 31; enlarged inflamed tonsils in 11; exudate in 4; mucopurulent discharge in 7. Epistaxis occurred in 2 cases initially. Coryza was noted in 17 cases. Conjunctivitis was noted in 9 cases. Cough was slight in 38 cases; in 2 it was severe. *Nervous Symptoms:* Drowsiness was early and characteristic in 288, or 72 per cent., varying from apathy to stupor in 47 cases. Irritability was present in 153 cases. This was associated with marked hyperesthesia in 97 cases. Tenderness and stiffness of the neck was an early and common symptom in 161 patients. Retraction of the neck and flexion of the lower extremities, occurred in 40. Pain was seen in 130 cases, usually to neck, extremities, back and shoulders and chest. Tremor was present in 110 cases. Twitching was observed in 64 cases, sometimes choreiform in character. Twitching of the corner of the mouth sometimes preceded facial paralysis. Headache was noted in 78 cases; frontal or general headache was the first symptom in 12 cases. Convulsions was seen in 6 cases. Irritability in 3 cases. Delirium in 10. *Urinary System:* 27 gave the history of urinary disturbance, usually a mild retention. Skin: Profuse sweating occurred in 45 cases. Rash: Red blotches in 2 cases; general erythema, 4 cases; macular, resembling measles, 8; urticaria, 4; pustular, 2; herpes, 7. He concludes: "The prodromal period has been found to be the most important stage in the course of the disease, both as to early quarantine and treatment. A careful history while not diagnostic, is very suggestive particularly in an epidemic."—(*Amer. Jour. Dis Child.*, June, 1917.)

Morbidity and Mortality of Pertussis and Measles.

Veeder presents a collection of statistics in charts and tables, from which he summarizes as follows: "A study of the morbidity and mortality of measles and pertussis brings out certain factors. Perhaps the most important of these is that, on an average, between 9,000 and 10,000 deaths from each disease take place annually in the United States. While the death-rate as a whole, and for certain diseases as tuberculosis, diphtheria, diarrhea and enteritis under two years, and typhoid fever, shows a decrease in the registration area in the past fifteen years, that for measles and pertussis has remained practically the same. Surely no disease that causes one in every hundred deaths, or that rolls up an annual toll of between nine and ten thousand lives a year is insignificant or unimportant. A second point is the age distribution of the deaths in these two conditions. Nearly 80 per cent. of the pertussis and over half of the measles deaths occur in infants. The older the child the lower the case fatality rate. The widespread impression among the laity that it is a good thing to have these common infections of childhood early and get them over with is erroneous. The longer that they can be warded off, so much less the change of fatal or damaging complications. The mortality of the first year of life is greater than the combined mortality of the rest of childhood. A part of this—birth accidents—congenital malformations, etc., may be termed fixed and is irreducible, but far the larger part is preventable to a certain extent. Somewhere between 5 and 10 per cent. of the mortality which may be lessened is due to measles and pertussis."—(*Arch. Ped.*, Mar., 1917.)

Vouzelle reports a case of attempted removal of a shell fragment from the right ventricle. Alarming syncope followed every attempt at extraction, so that the operation could not be completed. The patient died of suffocation four days later. No endocardial lesion was found at the autopsy.—(*Paris Méd.*)

Low wages favor high disease rates.

Puerperal Infection Cured Without Hysterectomy by a Uterine T-Incision and Abdominovaginal Drainage.

H. Chaput reports (*Bull. et mém. Soc. de chir, de Par.*, 1917, xliii. 353) three cases of severe puerperal infection, one with subacute metritis, salpingitis and generalized peritonitis, the other two with infected placental detritus and peritonism without peritonitis. These cases recovered readily after an uterine T-incision and filiform abdomino-uterovaginal and abdominovaginal posterior drainage. As the three patients showed signs of peritonitis, uterine curettage by the lower route was contra-indicated and laparotomy alone was indicated to vertify the condition of the peritoneum, etc.

The technique of the T-incision is simple. If time is an object incision of the vesico-uterine cul-de-sac may be dispensed with. Chaput incises the anterior uterine wall on the median line from the fundus to the vesico-uterine cul-de-sac; their extremities, draws backs the lips of the incision with he then opens up the uterine horns with the scissors as far as retractors and inspects the cavity. If there is no septic metritis he curettes; if the placenta is retained and infected it is resected; when the mucosa and uterine muscle are gangrenous over a large area it is preferable to excute a total abdominal hysterectomy.

Before draining the uterus through the vagina the neck must be dilated with Hegar's bougies, to No. 15.

Besides the partial T-incision, just described, the complete T-incision may be done by incising the vesico-uterine cul-de-sac, exposing the bladder and incising the uterus down to and including the vagina. This is preferable to the partial technique, as it gives better drainage and permits good disinfection when the neck is infected. It is best not to suture the uterine incision because it predisposes to infection of the muscular wound.

An open abdomino-uterovaginal drain is placed in the uterus and vagina and a rubber strip is introduced between the uterine edges. The uterine fundus must be sutured to the abdominal wall to obviate uterine secretions reaching the peritoneum. It is well to drain the vesico-uterine cul-de-sac specially with an open abdominopelvo-anterior drain. The Douglas filiform drain not having the inconveniences of tubular drains, Chaput considers it very valuable for open abdominovaginal posterior drainage.

The author states that the uterine T-incision gives recovery of puerperal infection without hysterectomy whenever the organ is not attacked by lesions incompatible with its preservation. It is indicated when septic metritis exists and placentary retention with infection or gangrene. It is contra-indicated in cases of extensive gangrene, purulent muscle infiltrations and phlebitis.—(*Int. Abst. Surg.*, July, 1917.)

Treatment of Abdominal Wounds.

R. Bastianelli has furnished a report (*Policlinico*, Feb. 11, 1917) on 277 cases of abdominal wounds treated in a third surgical unit of the Italian army between June and November, 1916. Fifty-four cases were non-penetrating; of these two died from infection of the abdominal wall. In some of the penetrating wounds the aperture of entry was in the thigh, in others in the upper intercostal spaces, in others again in the buttock. In the 223 cases of penetrating wound, recovery took place in 76 (34 per cent.). Operation was performed upon 140 cases, with 61 recoveries (about 43.5 per cent.); among these there were 12 without any visceral lesion, although in some the bullet had gone right through. In 83 no operation was done, and in 15 (19 per cent.) of these recovery took place. In none of these was there a lesion of the gastro intestinal canal, and in 3 there was no visceral lesion, the projectile being seen free in the belly, and causing no abdominal symptoms. Of 128 patients operated on for visceral lesion 50 (39 per cent.) recovered. Of the 80 not operated on 12 (15 per cent.) recovered, and of these none had lesions of solid viscera.

In 108 cases of lesion of the gastro-intestinal canal operation was performed, with 36 (32.4 per cent.) recoveries; 20 cases of wound of other viscera (liver, kidney, spleen and bladder) were operated on, with 14 (70 per cent.) recoveries. Sometimes even a late intervention has been successful, but Bastianelli is convinced that for many wounds there is a very brief period of time, probably less than one hour, after which infection is insurable. Immediate operation might save cases otherwise inevitably doomed. It is therefore necessary to create advanced stations for laparotomy close to the fighting line. Referring to post-operative complications, Bastianelli points out that sepsis of parietal wounds may be produced by the surgeon as well as by the missile. Incomplete suture and plugging of the wound did not always suffice to prevent it. He limited his incisions, except in case of necessity, to the middle line and the outer border of the rectus, so as to avoid complex muscular wounds in which necrosing and gaseous infections readily develop. He endeavored to protect the laparotomy wound and to disinfect it almost continuously during the operation by means of Dakin's or Giannettasio's solution, but with uncertain results.

Bastianelli believes that infection of the abdominal wall is caused by inoculation during the operation, and also afterwards by a microbic invasion which passes from the peritoneum through the stitch of the serous coat. This peritoneal infection is present in varying degree shortly after the injury, and the fate of the wounded man depends on whether it develops or not. The mechanical work of the surgeon only prevents a later pouring in of infective and toxic material, but can do nothing against that which has already taken place. The author seldom used lavage of the peritoneum; more often he employed drainage or plugging, but without obtaining decisive advantages.—(*Brit. M. J.*, Aug. 25, 1917.)

The Alternating Use of Antiseptics.

Charles Richet holds on theoretical grounds that a surgeon should never use a particular antiseptic solution for two consecutive days in the treatment of a wound (*C. R. de l'Acad. des. Sciences*, 1916, p. 589). He showed in 1914 (ibid, clviii, p. 764) that microbic organisms (the lactic ferment) developing in abnormal solutions—that is, those which contain feeble quantities of a toxic body—become accustomed very quickly, sometimes in twenty-four hours, to the unfamiliar substance applied, and Richet believes that when a given antiseptic solution is used for a wound for several weeks the microbes become gradually adapted to it, so that its antiseptic action is notably weakened. A daily change of the antiseptic solution is therefore a rational procedure.

He groups antiseptics thus: (a) Oxidizing antiseptics, such as hypochlorites, hypogromites, iodin, chlorin, oxygenated water, ozone and potassium permanganate; (b) metallic antiseptics—namely, salts of mercury, silver, zinc, copper, iron, etc.; (c) aromatic derivatives, phenols, salicylates, thymol, naphthol, creosote, etc.; (d) diverse antiseptics, such as formol, chloroform, essences, chloral, fluorides, boric acid, etc. He suggests the use of a substance out of groups *a*, *b*, *c* and *d*, respectively, on four successive days, followed by a different member of each of these groups on the next four days, and so on. He holds that the great advantage of a daily change of antiseptic solutions is that the microbes which multiply in the wound have each day to strive against a different poison, so that they have no time to acquire tolerance. He thinks the same principle should apply to remedies for internal diseases also. Just as in tuberculosis each new remedy may give a good result for some days, he suggests that the parasites of malaria, syphilis or typhoid fever may possibly acquire a tolerance of drugs taken by the mouth.—(*Brit. M. J.*, No. 2958, 1917.)

Effects of Malaria on Wounds.

Vandenbosche in a thesis presented to the University of Lyons (*Jour. de méd. et de chir. prat.*, April 25, 1917) records his observations at Salonica of the effects of malaria on wounds. In patients who have suffered from malaria even slight wounds may bring on an attack of fever. Operation may have the same effect, the attack coming on from one to six days afterwards. The effect is more constant when general anesthesia is employed, and the anesthetic may of itself bring on an attack. In tropical countries chloroform has a specially injurious action on the liver, and as that organ is very often affected in malarial subjects the frequency of post-chloroform jaundice in such people is explained; ether, which is less toxic, should therefore be used. In intensely malarious regions the latent paludism is all the more dangerous, since in those districts persons having all the appearance of health may carry the parasites in their blood without ever having had any manifestations of the disease.

In the hospitals at Salonica the most diverse hemorrhagic phenomena were observed in old-standing malarious patients. Some suffered from epistaxis, which was occasionally fatal; others had hemoptysis or hematuria; others came covered with petechial and ecchymotic patches. Every malaria patient must, says the author, be regarded as a "bleeder;" he should therefore be operated on only with the strictest precautions. Malarial attacks, of course, blur the clinical picture produced by a wound or its complications. Unless the possibility of malaria be borne in mind, fever in a wounded man may mislead the most experienced surgeon into enlarging the wound. Vandenbosche further calls attention to malarial gangrene, which is fortunately rare; he also mentions cases in which a malarial attack stimulating appendicitis has brought the patient to the operating table.—(*Brit. M. J.*, Aug. 25, 1917.)